

**Susan D. Ritenour**  
Secretary and Treasurer  
and Regulatory Manager

One Energy Place  
Pensacola, Florida 32520-0781  
Tel 850.444.6231  
Fax 850.444.6026  
SDRITENO@southernco.com

REC'D - 11-80

11 APR -1 PM 4:44

COMMISSION  
CLERK



A SOUTHERN COMPANY

March 31, 2011

110000-OT

Ms. Ann Cole, Commission Clerk  
Florida Public Service Commission  
2540 Shumard Oak Boulevard  
Tallahassee FL 32399-0870

Dear Ms. Cole:

Enclosed are an original and twenty-five copies of Gulf Power Company's 2011  
Ten Year Site Plan, and it is filed pursuant to Rule No. 25-22.071.

Sincerely,

*Susan Ritenour*

vm

Enclosures

COM \_\_\_\_\_  
APA \_\_\_\_\_  
ECR \_\_\_\_\_  
GCL \_\_\_\_\_  
RAD \_\_\_\_\_  
SSC \_\_\_\_\_  
ADM \_\_\_\_\_  
OPC \_\_\_\_\_  
CLK \_\_\_\_\_

cc: Beggs & Lane  
Jeffrey A. Stone, Esq.

DOCUMENT NUMBER-DATE

02170 APR-1 =

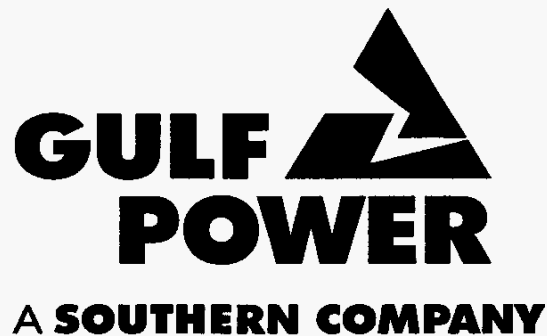
FPSC-COMMISSION CLERK



# **TEN YEAR SITE PLAN 2011-2020**

**FOR ELECTRIC GENERATING FACILITIES  
AND  
ASSOCIATED TRANSMISSION LINES**

**APRIL 2011**



DOCUMENT NUMBER-DATE  
02170 APR-11  
FPSC-COMMISSION CLERK



**GULF POWER COMPANY  
TEN YEAR SITE PLAN**

**FOR ELECTRIC GENERATING FACILITIES  
AND  
ASSOCIATED TRANSMISSION LINES**

**Submitted To The  
State of Florida  
Public Service Commission**

**APRIL 1, 2011**

DOCUMENT NUMBER-DATE

**02170 APR-1 =**

FPSC-COMMISSION CLERK



## TABLE OF CONTENTS

	<u>Page</u>
<b><u>EXECUTIVE SUMMARY</u></b>	1
<b><u>CHAPTER I DESCRIPTION OF EXISTING FACILITIES</u></b>	
Description of Existing Facilities	4
Schedule 1 Existing Generating Facilities	6
System Map	8
<b><u>CHAPTER II FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION</u></b>	
Forecasting Documentation	
Overview	9
I. Assumptions	10
II. Customer Forecast	13
III. Energy Sales Forecast	14
IV. Peak Demand Forecast	17
V. Data Sources	18
VI. Conservation Programs	18
VII. Small Power Production/ Renewable Energy	28
Schedule 2.1 History and Forecast of Energy Consumption and Number of Customers by Customer Class	29
Schedule 2.2 History and Forecast of Energy Consumption and Number of Customers by Customer Class	30

	<u>Page</u>	
Schedule 2.3	History and Forecast of Energy Consumption and Number of Customers by Customer Class	31
Schedule 3.1	History and Forecast of Summer Peak Demand	32
Schedule 3.2	History and Forecast of Winter Peak Demand	33
Schedule 3.3	History and Forecast of Annual Net Energy for Load	34
Schedule 4	Previous Year Actual and Two-Year Forecast of Peak Demand and Net Energy for Load by Month	35
Schedule 5	Fuel Requirements	36
Schedule 6.1	Energy Sources - GWH	37
Schedule 6.2	Energy Sources - % of NEL	38
Schedule 6.3	Renewable Energy Sources	39
 <b><u>CHAPTER III PLANNING ASSUMPTIONS AND PROCESSES</u></b>		
	Integrated Resource Planning Process	40
	Transmission Planning Process	44
	Fuel Price Forecast Process	46
	Southern (SES) Generic Fuel Forecast	47
	Coal Price Forecast	48
	Natural Gas Price Forecast	50
	Natural Gas Availability	51
	Strategic Issues	52
	Environmental Concerns	54



	<u>Page</u>
Availability of System Interchange	64
Off-System Sales	64
<b><u>CHAPTER IV FORECAST OF FACILITIES REQUIREMENTS</u></b>	
Capacity Resource Alternatives	65
Preferred and Potential Sites for Capacity Additions	68
Schedule 7.1 Forecast of Capacity, Demand, and Scheduled Maintenance at Time Of Summer Peak	78
Schedule 7.2 Forecast of Capacity, Demand, and Scheduled Maintenance at Time Of Winter Peak	79
Schedule 8 Planned and Prospective Generating Facility Additions and Changes	80
Schedule 9 Status Report and Specifications of Proposed Generating Facilities	81
Schedule 10 Status Report and Specifications of Directly associated Transmission Lines	82

**This page is intentionally blank.**

**GULF POWER COMPANY**

**TEN-YEAR SITE PLAN**

**Executive Summary**

The Gulf Power Company 2011 Ten-Year Site Plan is filed with the Florida Public Service Commission (FPSC) in accordance with the requirements of Chapter 186.801, Florida Statutes, as revised by the Legislature in 1995. The revision replaced the Florida Department of Community Affairs with the FPSC as the state agency responsible for the oversight of the Ten-Year Site Plan (TYSP). The 2011 TYSP for Gulf Power Company (Gulf) is being filed in compliance with the applicable FPSC rules.

Gulf's 2011 TYSP contains the documentation of assumptions used for Gulf's load forecast, fuel forecasts, the planning processes, existing resources, and future capacity needs and resources. The resource planning process utilized by Gulf to determine its future capacity needs is coordinated within the Southern electric system Integrated Resource Planning (IRP) process. Gulf participates in the IRP process along with other Southern electric system retail operating companies, Alabama Power Company, Georgia Power Company, and Mississippi Power Company, (collectively, the "Southern electric system" or SES), and it shares in a number of benefits gained from planning in conjunction with a large system such as the SES. These benefits include the economic sharing of SES generating reserves, the ability to install large, efficient generating units, and reduced requirements for operating reserves.

The capacity resource needs set forth in the SES IRP are driven by the demand forecast that includes the load reduction effects of projected demand-side measures that are embedded into the forecast prior to entering the generation mix process. The generation mix process uses PROVIEW® to screen the available technologies in order to produce a listing of preferred capacity resources from which to select the most cost-effective plan for the system. The resulting SES resource needs are then allocated among the operating companies based on reserve requirements, and each company then determines the resources that will best meet its capacity and reliability needs.

During the 2011 TYSP cycle, Gulf will continue to utilize the two purchased power agreements (PPAs) that currently supply 496 megawatts (MW) of peaking power from two existing regional market facilities to serve customers' electrical needs until their expiration on May 31, 2014. In addition to these PPAs and its existing generating units shown on Schedule 1 of this TYSP, Gulf's 3 MW landfill gas-to-energy facility at the Escambia County, Florida landfill began commercial operation in October of 2010.

Gulf's 2009 TYSP indicated that Gulf would need to add additional capacity resources in June 2014 due to the expiration of the peaking power PPAs and future load growth. To meet this need, Gulf executed a purchased power agreement with Shell Energy North America (Shell PPA) on March 16, 2009 for 885 MWs of capacity from an existing gas-fired combined cycle generating unit located in Alabama. Gulf received final FPSC approval of the Shell PPA in Order No. PSC-09-0629-CO-EI on September 17, 2009. This 885 MW resource became available to Gulf on a non-firm basis on

November 2, 2009, and is scheduled to meet Gulf's firm capacity requirements no later than June 2014 until it expires in May 2023.

With the 885 MW PPA capacity and the 3 MW renewable generation capacity shown as committed capacity, Gulf is currently expected to have the committed resources it needs to satisfy its reliability requirements during the 2011-2020 planning cycle. In order to meet its future capacity requirements which begin to develop by the Summer of 2022, Gulf will evaluate the construction of generating facilities or the acquisition of equivalent capacity resources in coordination with other SES operating companies.

Gulf continues to study the effects of pending environmental regulations on the future operation of its small coal-fired units at Plant Scholz in Jackson County, Florida. Therefore, these units will continue to operate on coal until a decision is made to retire and replace the capacity or convert the units to burn biomass.

**This page is intentionally blank.**

# CHAPTER I

## DESCRIPTION OF EXISTING FACILITIES

**This page is intentionally blank.**



## DESCRIPTION OF EXISTING FACILITIES

Gulf owns and operates generating facilities at five sites in Northwest Florida (Plants Crist, Smith, Scholz, Pea Ridge, and Perdido). Gulf also owns a 50% undivided ownership interest in Unit 1 and Unit 2 at Mississippi Power Company's Daniel Electric Generating Facility. Gulf has a 25% ownership in Unit 3 at Georgia Power Company's Scherer Electric Generating Facility which is completely dedicated to wholesale unit power sale contracts. This fleet of generating units consists of eleven fossil steam units, one combined cycle unit, four combustion turbines, and two internal combustion engine units fueled by landfill gas. Schedule 1 shows 906 MW of steam generation located at the Crist Electric Generating Facility near Pensacola, Florida. The Lansing Smith Electric Generating Facility near Panama City, Florida, includes 357 MW of steam generation, 556 MW (summer rating) of combined cycle generation, and 32 MW (summer rating) of combustion turbine facilities. The Scholz Electric Generating Facility, near Sneads, Florida, consists of 92 MW of steam generation. Gulf's Pea Ridge Facility, in Pace, Florida, consists of three combustion turbines associated with an existing customer's cogeneration facility, which adds 12 MW (summer rating) to Gulf's existing capacity. The newly constructed Perdido Landfill Gas-to-Energy Facility in Escambia County, Florida provides 3 MW from two internal combustion generating units.

Including Gulf's ownership interest in the Daniel fossil steam Units 1 and 2 and the Scherer fossil steam Unit 3, Gulf has a total net summer generating capability of 2,686 MW and a total net winter generating capability of 2,725 MW.

The existing Gulf system in Northwest Florida, including major generating plants, substations, transmission lines, are shown on the system map on page 8 of this TYSP. Data related to Gulf's existing generating facilities is presented on Schedule 1 of this TYSP.

GULF POWER COMPANY

SCHEDULE 1  
EXISTING GENERATING FACILITIES  
AS OF DECEMBER 31, 2010

(1) Plant Name	(2) Unit No.	(3) Location	(4) Unit Type	(5) (6) Fuel		(7) (8) Fuel Transp		(9) Alt. Fuel Days Use	(10) Com'l In-Service Mo/Yr	(11) Exptd Retrmnt Mo/Yr	(12) Gen Max Nameplate KW	(13) (14) Net Capability	
				Pri	Alt	Pri	Alt					Summer MW	Winter MW
Crist		Escambia County 25/1N/30W									<u>1,135,250</u>	<u>906.0</u>	<u>906.0</u>
	4		FS	C	NG	WA	PL	1	07/59	12/24	93,750	75.0	75.0
	5		FS	C	NG	WA	PL	1	06/61	12/26	93,750	75.0	75.0
	6		FS	C	NG	WA	PL	1	05/70	12/35	369,750	291.0	291.0
	7		FS	C	NG	WA	PL	1	08/73	12/38	578,000	465.0	465.0
Lansing Smith		Bay County 36/2S/15W									<u>1,001,500</u>	<u>945.0</u>	<u>981.0</u>
	1		FS	C	--	WA	--	--	06/65	12/30	149,600	162.0	162.0
	2		FS	C	--	WA	--	--	06/67	12/32	190,400	195.0	195.0
	3		CC	NG	--	PL	--	--	04/02	12/42	619,650	556.0	584.0
	A		CT	LO	--	TK	--	--	05/71	12/27	41,850	32.0	40.0
Scholz (A)		Jackson County 12/3N/7W									<u>98,000</u>	<u>92.0</u>	<u>92.0</u>
	1		FS	C	--	RR	WA	--	03/53	Note A	49,000	46.0	46.0
	2		FS	C	--	RR	WA	--	10/53	Note A	49,000	46.0	46.0
Daniel (B)		Jackson County, MS 42/5S/6W									<u>548,250</u>	<u>510.0</u>	<u>510.0</u>
	1		FS	C	HO	RR	TK	--	09/77	12/42	274,125	255.0	255.0
	2		FS	C	HO	RR	TK	--	06/81	12/46	274,125	255.0	255.0
Scherer (B)	3	Monroe County, GA	FS	C	--	RR	--	--	01/87	12/52	222,750	218.0	218.0
Pea Ridge		Santa Rosa County 15/1N/29W									<u>14,250</u>	<u>12.0</u>	<u>15.0</u>
	1		CT	NG	--	PL	--	--	05/98	12/18	4,750	4.0	5.0
	2		CT	NG	--	PL	--	--	05/98	12/18	4,750	4.0	5.0
	3		CT	NG	--	PL	--	--	05/98	12/18	4,750	4.0	5.0

**GULF POWER COMPANY**

**SCHEDULE 1  
EXISTING GENERATING FACILITIES  
AS OF DECEMBER 31, 2010**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Plant Name	Unit No.	Location	Unit Type	Fuel		Fuel Transp		Alt. Fuel Days Use	Com'l In-Service Mo/Yr	Exptd Retrmnt Mo/Yr	Gen Max Nameplate KW	Net Capability	
				Pri	Alt	Pri	Alt					Summer MW	Winter MW
Perdido LFG		Escambia County									3.2	3.0	3.0
	1		IC	LFG	--	PL	--	--	10/10	12/29	1.6	1.5	1.5
	2		IC	LFG	--	PL	--	--	10/10	12/29	1.6	1.5	1.5
Total System											2,686.0	2,725.0	

7

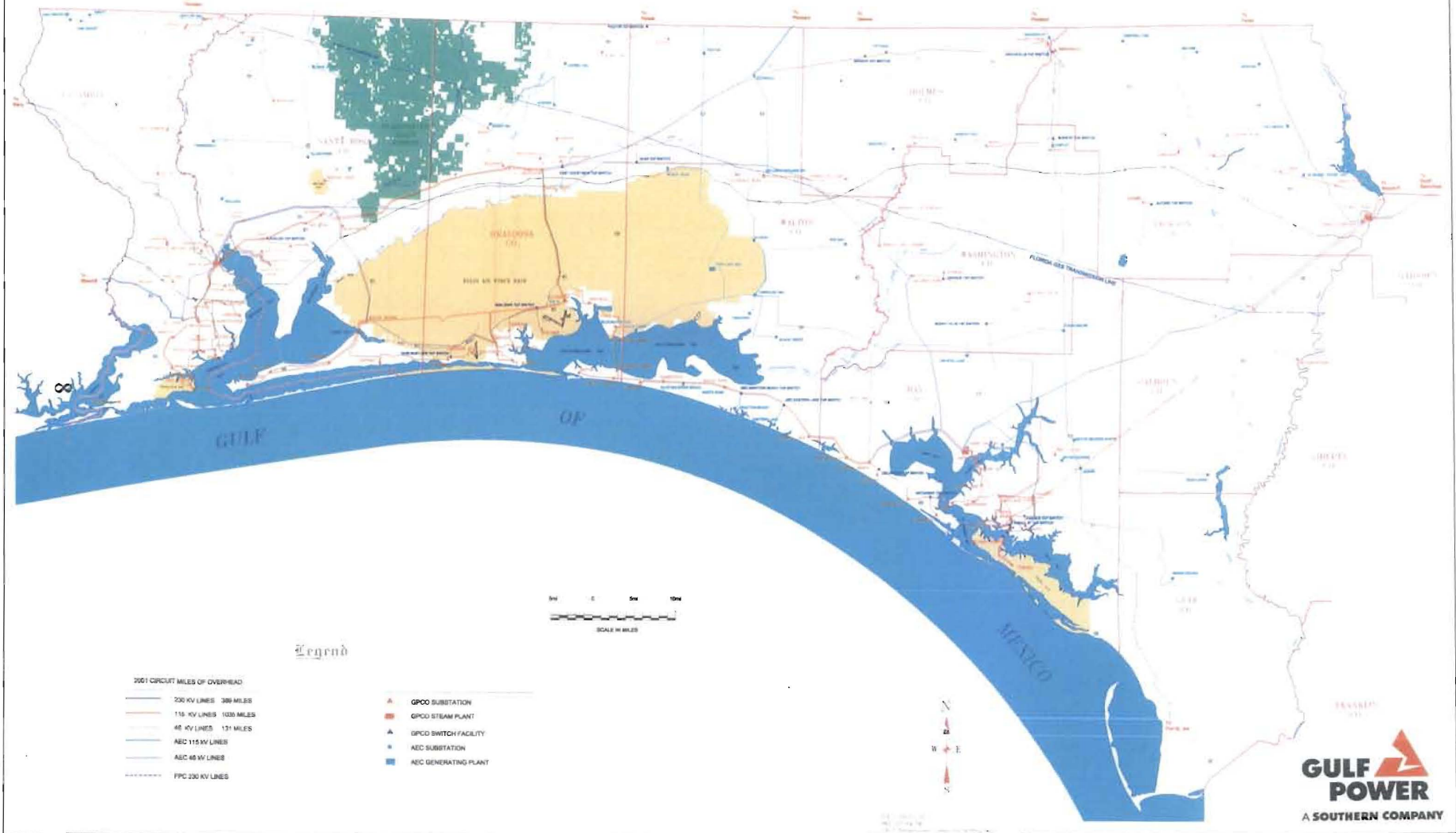
Abbreviations:

Fuel	Fuel Transportation
FS - Fossil Steam	PL - Pipeline
CT - Combustion Turbine	WA - Water
CC - Combined Cycle	TK - Truck
NG - Natural Gas	RR - Railroad
C - Coal	
LO - Light Oil	
HO - Heavy Oil	
IC - Internal Combustion	
LFG - Landfill Gas	

NOTE: (A) Scholz Units 1 & 2 will continue to operate on coal beyond 2011.

(B) Unit capabilities shown represent Gulf's portion of Daniel Units 1 & 2 (50%) and Scherer Unit 3 (25%).

# GULF POWER COMPANY TRANSMISSION & SUBSTATION SYSTEM





## CHAPTER II

### FORECAST OF ELECTRIC POWER DEMAND AND ENERGY CONSUMPTION

**This page is intentionally blank.**



**GULF POWER COMPANY  
FORECASTING METHODOLOGY  
OVERVIEW**

Gulf views the forecasting effort as a dynamic process requiring ongoing activities to yield results that allow informed planning and decision-making. The total forecast is an integration of different techniques and methodologies, each applied to the task for which it is best suited. Many of the techniques take advantage of the extensive data made available through the Company's customer service efforts, which are predicated on the philosophy of knowing and understanding the needs, perceptions and motivations of our customers and actively promoting wise and efficient uses of energy which satisfy customer needs. Gulf has been a pacesetter in the energy efficiency market since the development and implementation of the GoodCents Home program in the mid-70's. This program brought customer awareness, understanding and expectations regarding energy efficient construction standards in Northwest Florida to levels unmatched elsewhere.

The Market Research and Planning section of Gulf's Energy Sales and Efficiency Department is responsible for preparing forecasts of customers, energy and peak demand. A description of the assumptions and methods used in the development of these forecasts follows.

## **I. ASSUMPTIONS**

### **A. ECONOMIC OUTLOOK**

The economic assumptions used to develop Gulf's forecast of customers, energy sales and peak demand for this Ten Year Site Plan were derived from the May 2010 economic projection provided by Moody's Analytics, formerly known as Moody's Economy.com. This economic projection incorporates the national recession which started in December 2007 and officially ended in June 2009.

The May 2010 economic projection indicated that the national economy was expanding. National real GDP was on track to grow 2.7% annualized during the second half of the year. National job growth was strong, although the unemployment rate was expected to climb to 9.9%, not declining to its historical trend until 2014.

**B. TERRITORIAL ECONOMIC OUTLOOK**

The Northwest Florida economy, by comparison to the national economy, did not show signs of recovery during the national June 2009 turnaround due to a weak housing market, high relative unemployment rates, and continued declining income. Northwest Florida's real disposable personal income declined 0.1% in 2010 but was projected to grow over the next five years at an average annual rate of 3.8%. The region's employment, which grew at a 1.0% average annual growth rate from 2000-2009 and declined 0.3% in 2010 was projected to grow at an average annual rate of 3.3% over the next five years. Housing stock vacancy rate was projected to decline from a peak of 22% in 2009 to 17.6% by 2013. Population growth in Northwest Florida was 1.3% before the recession, was nearly flat at 0.2% during the recession through 2009, and was projected to return to historical growth rates by 2013, growing at an average annual rate of 1.3% for the next five years. Over the long-run, out through the full 25 years of the forecast period, Northwest Florida growth was projected to decelerate to an average annual rate of 2.7% for income and 2.3% for employment.

Gulf's projections incorporate electric price assumptions derived from the 2010 Gulf Power Official Long-Range Forecast. Fuel price projections for gas and oil are developed by Southern Company Services (SCS) Fuel Procurement staff with input from outside consultants. The following tables provide a 5-year summary of assumptions associated with Gulf's forecast:

**TABLE 1**  
**ECONOMIC SUMMARY**  
**(2010-2015)**

GDP Growth	2.8 % - 5.9 %
Interest Rate (30 Year AAA Bonds)	4.6 % - 6.8 %
Inflation	0.7 % - 1.9 %

**TABLE 2**  
**AREA DEMOGRAPHIC SUMMARY**  
**(2010-2015)**

Population Gain	54,870
Net Migration	10,710
Average Annual Population Growth	1.3 %
Average Annual Labor Force Growth	2.8 %

## **II. CUSTOMER FORECAST**

### **A. RESIDENTIAL CUSTOMER FORECAST**

The short-term forecast of residential customers was based on projections prepared by Gulf's field Energy Sales and Efficiency Managers. The resulting projections reflect both the recent historical trends in customer gains and knowledge of locally planned construction projects. Forecasters reviewed the near-term projections by rate, checking for consistency with historical trends, consistency with economic outlooks, and consistency across the three Metropolitan Statistical Areas (MSAs) in Gulf's service area. Gulf utilized growth in the number of households from Moody's Analytics to extend the short-term residential forecast of customers to the long-term horizon.

### **B. COMMERCIAL CUSTOMER FORECAST**

The short-term forecast of commercial customers, as in the residential sector, was based on projections prepared by Gulf's field Energy Sales and Efficiency Managers. The resulting projections reflect both the recent historical trends in customer gains and knowledge of locally planned construction projects. Forecasters reviewed the near-term projections by rate checking for consistency with historical trends, consistency with economic outlooks, and consistency across the three MSAs in Gulf's service area. Beyond the short-term period, commercial customers were forecast as a function of residential customers, reflecting the growth of commercial services to meet the needs of new residents.

### **III. ENERGY SALES FORECAST**

#### **A. RESIDENTIAL SALES FORECAST**

The residential energy sales forecast was developed utilizing multiple regression analyses. Monthly class energy use per customer per billing day was estimated based on recent historical data, normal weather, income, housing stock vacancy rate and projected price of electricity. The model output was then multiplied by the projected number of customers and billing days by month to expand to the total residential class.

Long term projections of residential sales were developed utilizing the Residential End-Use Energy Planning System (REEPS) model, an electric utility end-use forecasting tool. REEPS forecasts end-use or appliance-specific residential energy demand using a variety of demographic, housing, economic, energy, and weather information. Gulf utilized growth rates from the REEPS projection to extend the short-term residential sales forecast to the long-term horizon.

The residential sales forecast reflects the expected impacts of conservation programs approved in Gulf's most recent DSM plan. Additional information on the residential conservation programs and program features are provided in the Conservation Programs section of this document.

#### **B. COMMERCIAL SALES FORECAST**

The commercial energy sales forecast was also developed utilizing multiple regression analyses. Monthly energy use per customer per billing day for small commercial customers (rate GS) was estimated based on recent historical data,

normal weather, employment and projected price of electricity. Similarly, monthly energy use per customer per billing day for large commercial customers (all other commercial rates) was estimated based on recent historical data, normal weather, employment, and projected price of electricity. These regression model outputs were then multiplied by the projected number of small and large commercial customers respectively and billing days by month, then summed to the total commercial class.

Long term projections of commercial sales were developed utilizing the Commercial End-Use Planning System (COMMEND) model, an electric utility end-use forecasting tool that provides a conceptual framework for organizing commercial market building-type and end-use information. Gulf utilized growth rates from the COMMEND projection to extend the short-term commercial sales forecast to the long-term horizon.

The commercial sales forecast reflects the expected impacts of conservation programs approved in Gulf's most recent DSM plan. Additional information on the commercial conservation programs and program features are provided in the Conservation Programs section of this document.

### **C. INDUSTRIAL SALES FORECAST**

The short-term industrial energy sales forecast was developed using a combination of on-site surveys of major industrial customers and growth rate analyses. Gulf's largest industrial customers were interviewed to identify load changes due to equipment additions, replacements or changes in operating characteristics. The short-term forecast of monthly sales to these major industrial customers is a synthesis of the detailed survey information and historical monthly

load factors. The forecast of sales to the remaining smaller industrial customers was developed using rate-level growth rate analyses. The sum of the energy sales forecast for the major industrial customers and the remaining smaller industrial customers resulted in the total industrial energy sales forecast.

**D. OUTDOOR LIGHTING SALES FORECAST**

Outdoor lighting energy forecasts were developed using historical growth trends by class and rate. Forecasters reviewed historical lighting customer and energy data with the lighting team to gain insight into future trends before finalizing lighting projections.

**E. WHOLESALE ENERGY FORECAST**

The forecast of energy sales to wholesale customers was developed utilizing multiple regression analyses. Monthly energy purchases per day for each of Gulf's wholesale customers were estimated based on recent historical data, normal weather and income. The model output was then multiplied by the projected number of days by month to expand to the customer totals, which were then summed to develop the class totals.

**F. COMPANY USE FORECAST**

The forecast of company energy use was based on recent historical averages by month.



#### **IV. PEAK DEMAND FORECAST**

The short-term peak demand forecast was prepared using average historical annual territorial load factors and projected annual territorial supply. The annual peak demand projections for 2011 were based on the average of the historical annual load factors for the period 2007 through 2009 to reflect the continuing impact of the recession. The annual peak demand projections for 2012 and beyond reflect a gradual return to non-recessionary annual load factors. Gulf's annual peak demand typically occurs in the month of July. Monthly peak demands were developed using monthly-peak to annual-peak ratios.

The long term peak demand forecast was prepared using the Hourly Electric Load Model (HELM), developed by ICF, Incorporated, for EPRI under Project RP1955-1. The resulting output from the model was hourly electrical loads over the forecast horizon. HELM forecasts electric utility system loads using a "bottom up" approach. Model inputs include energy forecasts by rate and by individual large customer as well as load shapes by class, rate and individual large customer. The results are hourly system load shapes where the system demand for electricity in any hour is the sum of demands for each class for that hour.

The resulting short term and long term monthly demand projections were then adjusted to reflect the anticipated impacts of conservation programs approved in Gulf's most recent DSM plan. Additional information on the peak demand impacts of Gulf's conservation programs are provided in the Conservation Programs section of this document.

## **V. DATA SOURCES**

Gulf utilized historical customer, energy and revenue data by rate and class, and historical hourly load data coupled with weather information from The National Oceanic and Atmospheric Administration (NOAA) to support the energy and demand models. Individual customer historical data was utilized in developing projections for Gulf's largest industrial customers.

Gulf's models also utilized economic projections provided by Moody's Analytics, formerly known as Moody's Economy.com, a renowned economic services provider. Moody's relies on the Bureau of Labor Statistics for data on employment, unemployment rate and labor force. Moody's obtains Personal Income data from the Bureau of Economic Analyses. Moody's obtains Population, Households and Housing Permit information from the U.S. Census Bureau.

## **VI. CONSERVATION PROGRAMS**

Gulf's forecast of energy sales and peak demand reflect the continued impacts of energy efficiency and conservation activities, including the impacts of programs proposed by Gulf in its most recent DSM plan, which was approved by the Commission in Order No. PSC-11-0114-PAA-EG on February 11, 2011. Gulf's conservation programs were designed to meet the goals established by the Commission in Order No. PSC-09-0855-FOF-EG in December of 2009. Following is a brief description of the currently approved programs and tables indicating the historical and projected conservation impacts of Gulf's ongoing conservation efforts.

**A. RESIDENTIAL CONSERVATION**

1. Residential Energy Audit and Education – This program is the primary educational program to help customers improve the energy efficiency of their new or existing home through energy conservation advice and information that encourages the implementation of efficiency measures and behaviors resulting in energy and utility bill savings.
2. EnergySelect - This program is designed to provide the customer with a means of conveniently and automatically controlling and monitoring energy purchases in response to prices that vary during the day and by season in relation to Gulf's cost of producing or purchasing energy. The *EnergySelect* system includes field units utilizing a communication gateway, major appliance load control relays, and a programmable thermostat, all operating at the customer's home.
3. EnergySelect LITE Program - *EnergySelect* LITE provides for expanded price responsive load management program participation from residential customers who do not have land-line telephone service and will be available to multi-family customers. The program is designed to provide the customer with a means of conveniently and automatically controlling and monitoring energy purchases in response to prices that vary during the day and by season in relation to Gulf's cost of producing or purchasing energy.

4. Community Energy Saver Program - This program is designed to assist low-income families with escalating energy costs through the direct installation of conservation measures at no cost to them. The program will also educate families on energy efficiency techniques and behavioral changes to help control their energy use and reduce their utility operating costs.
5. HVAC Efficiency Improvement Program - This program is designed to increase energy efficiency and improve HVAC cooling system performance for new and existing homes through maintenance, early retirement, upgrades and duct repair.
6. Landlord/Renter Custom Incentive Program - This program will promote the installation of various energy efficiency measures available through other programs including HVAC, insulation, windows, water heating, lighting, appliances, etc. including additional incentives as appropriate to overcome the split-incentive barrier which exists in a landlord/renter situation.
7. Heat Pump Water Heater Program - This program will provide incentives directly to the customer for the installation of high-efficiency Heat Pump Water Heating equipment for domestic hot water production.
8. Ceiling Insulation Program - This program will provide incentives to encourage customers to install or increase high efficiency insulation in new or existing residential homes to reduce heat loss and heat gain from both conductive and convective means.

9. High Performance Window Program - This program will provide incentives to install high-efficiency windows or window films in existing or new residential homes to reduce solar heat gain which, in turn, leads to reduced HVAC loads and operating costs.
10. Reflective Roof Program - This program will provide incentives to promote the installation of ENERGY STAR qualified cool/reflective roofing products when constructing a new home or replacing the roof on an existing home to decrease the amount of heat transferred through roof assemblies and into vented attic spaces which, in turn, decreases the transfer of heat into the home's conditioned living area.
11. Variable Speed/Flow Pool Pump Program - This program will provide an incentive to encourage the installation of high-efficiency variable speed or variable flow pool pumping and control equipment in both new and existing residential homes to reduce the energy, demand, and costs associated with swimming pool operation.
12. Self-Install Energy Efficiency Program - This program promotes the purchase and installation of ENERGY STAR rated appliances, lighting and other self-installed energy saving measures for residential customers by focusing on increasing customer awareness of the benefits of energy efficient technologies and products through customer education, retail partnerships, promotional distribution of compact fluorescent light bulbs (CFLs), on-line store, energy audits and seasonal promotional campaigns.

13. Refrigerator Recycling Program – This program is designed to increase customer awareness of the economic and environmental costs associated with running inefficient, older appliances in a household, and to provide eligible customers with free refrigerator and freezer pick-up services in addition to a cash incentive.

**B. COMMERCIAL/INDUSTRIAL CONSERVATION**

1. Commercial/Industrial (C/I) Energy Analysis – This is an interactive program that provides commercial and industrial customers assistance in identifying energy conservation opportunities. The program is a prime tool for the Gulf Power Company C/I Energy Specialists to personally introduce a customer to conservation measures, including low or no-cost improvements or new electro-technologies to replace old or inefficient equipment.
2. Commercial HVAC Retrocommissioning Program - This program offers basic retrocommissioning at a reduced cost for qualifying commercial and industrial customers designed to diagnose the performance of the HVAC cooling unit(s) with the support of an independent computerized quality control process and make improvements to the system to bring it to its full efficiency.
3. Commercial Building Efficiency Program - This program is designed as an umbrella efficiency program for existing commercial and industrial customers to increase awareness and customer demand for high-efficiency, energy-saving equipment; increase availability

and market penetration of energy efficient equipment; and contribute toward long-term energy savings and peak demand reductions.

4. Occupancy Sensor HVAC Control – The purpose of this program is to promote the installation of occupancy sensors to reduce energy waste in hotel rooms by providing hotel owners the opportunity to automatically control temperature settings when the rooms are unoccupied.
5. High Efficiency Motor Program – The purpose of this program is to reduce demand and energy associated with electric motors by encouraging the replacement of worn out, inefficient motors with high efficiency motors.
6. Food Service Efficiency Program – This program encourages the installation of ENERGY STAR qualified or equivalent energy efficient commercial and industrial food service equipment to reduce energy consumption and demand as well as operating costs for the customer.
7. Commercial/Industrial Custom Incentive - This program is designed to establish the capability and process to offer advanced energy services and energy efficient end-user equipment (including comprehensive audits, design, and construction of energy conservation projects) not offered through other programs to Commercial or Industrial customers.
8. Real Time Pricing (RTP) – The objective of this program, available to large Commercial and Industrial customers of Gulf Power, is to

*encourage customers to reduce demand on Gulf's system during peak times when the marginal cost of generating or purchasing electricity is at its highest by providing hourly prices on a day-ahead basis.*

**C. CONSERVATION RESULTS SUMMARY**

The following tables provide estimates of the reductions in peak demand and net energy for load realized by Gulf's customers as a result of participation in Gulf's conservation programs.



HISTORICAL  
TOTAL CONSERVATION PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2009	363,015	437,179	718,161,405

2011 BUDGET FORECAST  
TOTAL CONSERVATION PROGRAMS  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2010	7,839	6,213	8,489,666
2011	14,000	12,100	29,400,000
2012	16,400	15,900	62,000,000
2013	20,900	19,000	67,700,000
2014	23,800	21,100	76,900,000
2015	23,800	20,700	76,200,000
2016	21,900	19,100	71,300,000
2017	20,500	18,400	67,100,000
2018	19,600	17,800	64,300,000
2019	18,400	17,300	61,000,000
2020	18,400	17,300	61,000,000

2011 BUDGET FORECAST  
TOTAL CONSERVATION PROGRAMS  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2010	370,854	443,392	726,651,071
2011	384,854	455,492	756,051,071
2012	401,254	471,392	818,051,071
2013	422,154	490,392	885,751,071
2014	445,954	511,492	962,651,071
2015	469,754	532,192	1,038,851,071
2016	491,654	551,292	1,110,151,071
2017	512,154	569,692	1,177,251,071
2018	531,754	587,492	1,241,551,071
2019	550,154	604,792	1,302,551,071
2020	568,554	622,092	1,363,551,071

**HISTORICAL  
RESIDENTIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR**

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2009	177,462	287,090	373,171,277

**2011 BUDGET FORECAST  
RESIDENTIAL CONSERVATION  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR**

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2010	912	2,107	3,489,855
2011	7,800	8,700	26,800,000
2012	13,600	14,500	54,500,000
2013	17,000	17,200	57,300,000
2014	19,400	19,000	65,100,000
2015	18,900	18,600	63,200,000
2016	17,000	17,000	58,500,000
2017	16,000	16,400	55,200,000
2018	15,200	15,900	52,700,000
2019	14,400	15,500	50,300,000
2020	14,400	15,500	50,300,000

**2011 BUDGET FORECAST  
RESIDENTIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR**

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2010	178,374	289,197	376,661,132
2011	186,174	297,897	403,461,132
2012	199,774	312,397	457,961,132
2013	216,774	329,597	515,261,132
2014	236,174	348,597	580,361,132
2015	255,074	367,197	643,561,132
2016	272,074	384,197	702,061,132
2017	288,074	400,597	757,261,132
2018	303,274	416,497	809,961,132
2019	317,674	431,997	860,261,132
2020	332,074	447,497	910,561,132

HISTORICAL  
COMMERCIAL/INDUSTRIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2009	185,553	150,089	344,990,128

2011 BUDGET FORECAST  
COMMERCIAL/INDUSTRIAL CONSERVATION  
INCREMENTAL ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2010	6,927	4,106	4,999,811
2011	6,200	3,400	2,600,000
2012	2,800	1,400	7,500,000
2013	3,900	1,800	10,400,000
2014	4,400	2,100	11,800,000
2015	4,900	2,100	13,000,000
2016	4,900	2,100	12,800,000
2017	4,500	2,000	11,900,000
2018	4,400	1,900	11,600,000
2019	4,000	1,800	10,700,000
2020	4,000	1,800	10,700,000

2011 BUDGET FORECAST  
COMMERCIAL/INDUSTRIAL CONSERVATION  
CUMULATIVE ANNUAL REDUCTIONS  
AT GENERATOR

	SUMMER PEAK (KW)	WINTER PEAK (KW)	NET ENERGY FOR LOAD (KWH)
2010	192,480	154,195	349,989,939
2011	198,680	157,595	352,589,939
2012	201,480	158,995	360,089,939
2013	205,380	160,795	370,489,939
2014	209,780	162,895	382,289,939
2015	214,680	164,995	395,289,939
2016	219,580	167,095	408,089,939
2017	224,080	169,095	419,989,939
2018	228,480	170,995	431,589,939
2019	232,480	172,795	442,289,939
2020	236,480	174,595	452,989,939

## **VII. SMALL POWER PRODUCTION / RENEWABLE ENERGY**

The current forecasts also consider Gulf's active promotion of customer-sited renewable energy resources. Gulf initiated implementation of four new solar programs in 2011 in compliance with the Commission's Order No. PSC-09-0855-FOF-EG approved in December 2009. The Solar PV program, the Solar Thermal Water Heating program, the Solar for Schools program and the Solar Thermal Water Heating for Low Income Housing program are expected to result in demand and energy reductions that have been incorporated in the conservation estimates provided elsewhere in this document.

Please refer to the Capacity Resource Alternatives section of this TYSP for additional information concerning Gulf's efforts to promote and develop supply-side renewable energy resources.

**GULF POWER COMPANY**

**Schedule 2.1**

History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Year	Rural and Residential					Commercial		
	Population	Members per Household	GWH	Average No. of Customers	Average KWH Consumption Per Customer	GWH	Average No. of Customers	Average KWH Consumption Per Customer
2001	742,110	2.60	4,716	325,343	14,497	3,417	48,482	70,490
2002	755,930	2.61	5,144	331,637	15,510	3,553	49,139	72,304
2003	766,930	2.61	5,101	338,631	15,064	3,614	50,420	71,683
2004	780,100	2.61	5,215	345,467	15,096	3,695	51,981	71,093
2005	789,800	2.61	5,320	350,404	15,181	3,736	52,916	70,599
2006	795,820	2.60	5,425	360,930	15,032	3,843	53,479	71,862
2007	794,550	2.60	5,477	371,213	14,755	3,971	53,791	73,821
2008	796,460	2.61	5,349	374,709	14,274	3,961	53,810	73,610
2009	798,340	2.60	5,254	374,010	14,049	3,896	53,414	72,942
2010	802,190	2.60	5,651	375,847	15,036	3,997	53,349	74,912
2011	805,170	2.59	5,436	377,660	14,395	3,964	53,822	73,658
2012	813,540	2.59	5,633	381,182	14,778	4,083	54,502	74,916
2013	826,820	2.58	5,815	386,914	15,028	4,195	55,127	76,103
2014	842,400	2.57	6,005	393,848	15,246	4,309	55,865	77,129
2015	857,060	2.56	6,130	400,949	15,288	4,387	56,617	77,492
2016	872,480	2.55	6,212	408,012	15,224	4,446	57,367	77,510
2017	888,330	2.55	6,314	414,933	15,218	4,523	58,106	77,844
2018	904,330	2.55	6,421	421,603	15,229	4,598	58,822	78,160
2019	920,470	2.55	6,547	428,018	15,296	4,693	59,514	78,849
2020	936,590	2.55	6,692	434,112	15,416	4,776	60,176	79,362
<b>CAAG</b>								
01-10	0.9%	0.0%	2.0%	1.6%	0.4%	1.8%	1.1%	0.7%
10-15	1.3%	-0.3%	1.6%	1.3%	0.3%	1.9%	1.2%	0.7%
10-20	1.6%	-0.2%	1.7%	1.5%	0.3%	1.8%	1.2%	0.6%

\* Historical and projected figures include Pensacola, Ft Walton, and Panama City MSAs

**Schedule 2.2**  
History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<u>Year</u>	<u>GWH</u>	<u>Average No. of Customers</u>	<u>Average KWH Consumption Per Customer</u>	<u>Railroads and Railways GWH</u>	<u>Street &amp; Highway Lighting GWH</u>	<u>Other Sales to Public Authorities GWH</u>	<u>Total Sales to Ultimate Consumers GWH</u>
		<u>Industrial</u>					
2001	2,018	277	7,290,329	0	21	0	10,173
2002	2,054	272	7,552,563	0	21	0	10,772
2003	2,147	285	7,526,577	0	22	0	10,885
2004	2,113	279	7,569,053	0	23	0	11,046
2005	2,161	295	7,332,898	0	23	0	11,239
2006	2,136	294	7,260,626	0	24	0	11,429
2007	2,048	303	6,769,670	0	24	0	11,521
2008	2,211	291	7,592,204	0	23	0	11,543
2009	1,727	280	6,164,567	0	25	0	10,903
2010	1,686	275	6,133,961	0	26	0	11,359
2011	1,993	286	6,958,806	0	28	0	11,421
2012	2,024	295	6,869,032	0	29	0	11,768
2013	2,024	296	6,837,280	0	29	0	12,064
2014	2,026	298	6,786,410	0	30	0	12,369
2015	2,026	299	6,771,651	0	31	0	12,574
2016	2,028	301	6,743,493	0	32	0	12,718
2017	2,029	302	6,707,808	0	33	0	12,899
2018	2,029	304	6,671,280	0	34	0	13,081
2019	2,030	307	6,619,389	0	35	0	13,304
2020	2,032	308	6,605,480	0	36	0	13,536
<b>CAAG</b>							
01-10	-2.0%	-0.1%	-1.9%	0.0%	2.2%	0.0%	1.2%
10-15	3.7%	1.7%	2.0%	0.0%	4.0%	0.0%	2.1%
10-20	1.9%	1.1%	0.7%	0.0%	3.5%	0.0%	1.8%

30

**GULF POWER COMPANY**

**Schedule 2.3**

History and Forecast of Energy Consumption and  
Number of Customers by Customer Class

(1)	(2)	(3)	(4)	(5)	(6)
<u>Year</u>	<u>Sales for Resale GWH</u>	<u>Utility Use &amp; Losses GWH</u>	<u>Net Energy for Load GWH</u>	<u>Other Customers (Average No.)</u>	<u>Total No. of Customers</u>
2001	360	671	11,204	460	374,561
2002	384	754	11,910	474	381,521
2003	383	685	11,952	473	389,809
2004	389	727	12,162	474	398,200
2005	418	666	12,322	472	404,086
2006	415	743	12,586	482	415,185
2007	417	733	12,671	486	425,793
2008	398	676	12,617	493	429,302
2009	390	682	11,975	502	428,206
2010	409	750	12,518	559	430,030
2011	392	715	12,528	573	432,342
2012	405	738	12,911	587	436,565
2013	411	758	13,233	600	442,938
2014	418	778	13,566	614	450,625
2015	422	790	13,786	628	458,493
2016	427	801	13,946	642	466,321
2017	430	815	14,144	657	473,999
2018	435	828	14,343	672	481,401
2019	440	844	14,588	688	488,526
2020	447	857	14,840	703	495,299
<b><u>CAAG</u></b>					
01-10	1.4%	1.3%	1.2%	2.2%	1.5%
10-15	0.6%	1.0%	1.9%	2.4%	1.3%
10-20	0.9%	1.3%	1.7%	2.3%	1.4%

Note: Sales for Resale and Net Energy for Load include contracted energy allocated to certain customers by Southeastern Power Administration (SEPA).

**GULF POWER COMPANY**

**Schedule 3.1**  
**History and Forecast of Summer Peak Demand - MW**  
**Base Case**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Year</u>	<u>Total</u>	<u>Wholesale</u>	<u>Retail</u>	<u>Interruptible</u>	<u>Residential Load Management</u>	<u>Residential Conservation</u>	<u>Comm/Ind Load Management</u>	<u>Comm/Ind Conservation</u>	<u>Net Firm Demand</u>
2001	2,528	86	2,442	17	0	137	0	143	2,231
2002	2,755	94	2,661	0	0	145	0	148	2,462
2003	2,582	87	2,495	0	0	152	0	155	2,275
2004	2,752	92	2,659	0	0	161	0	159	2,431
2005	2,767	90	2,677	0	0	167	0	164	2,435
2006	2,828	97	2,731	0	0	171	0	173	2,483
2007	2,989	103	2,886	0	0	175	0	180	2,634
2008	2,898	96	2,802	0	0	176	0	182	2,541
2009	2,909	93	2,816	0	0	177	0	186	2,546
2010	2,896	92	2,804	0	0	178	0	192	2,525
2011	2,977	80	2,898	0	0	187	0	199	2,592
2012	3,040	81	2,959	0	0	197	0	201	2,642
2013	3,090	83	3,007	0	0	211	0	204	2,675
2014	3,141	84	3,058	0	0	228	0	207	2,706
2015	3,171	84	3,086	0	0	247	0	212	2,712
2016	3,204	85	3,119	0	0	266	0	216	2,722
2017	3,258	86	3,173	0	0	283	0	221	2,754
2018	3,313	87	3,227	0	0	301	0	226	2,787
2019	3,378	87	3,291	0	0	317	0	231	2,830
2020	3,449	88	3,360	0	0	333	0	235	2,880
<b>CAAG</b>									
01-10	1.5%	0.7%	1.5%	0.0%	0.0%	3.0%	0.0%	3.3%	1.4%
10-15	1.8%	-1.7%	1.9%	0.0%	0.0%	6.7%	0.0%	1.9%	1.4%
10-20	1.8%	-0.4%	1.8%	0.0%	0.0%	6.5%	0.0%	2.0%	1.3%

NOTE 1: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA)



**GULF POWER COMPANY**

**Schedule 3.2  
History and Forecast of Winter Peak Demand - MW  
Base Case**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
<u>Year</u>	<u>Total</u>	<u>Wholesale</u>	<u>Retail</u>	<u>Interruptible</u>	<u>Residential Load Management</u>	<u>Residential Conservation</u>	<u>Comm/Ind Load Management</u>	<u>Comm/Ind Conservation</u>	<u>Net Firm Demand</u>
00-01	2,486	94	2,393	0	0	200	0	126	2,160
01-02	2,530	93	2,437	0	0	211	0	129	2,190
02-03	2,856	100	2,757	0	0	224	0	133	2,500
03-04	2,445	84	2,361	0	0	240	0	135	2,070
04-05	2,518	97	2,420	0	0	250	0	137	2,130
05-06	2,476	97	2,379	0	0	262	0	142	2,072
06-07	2,644	93	2,551	0	0	275	0	146	2,224
07-08	2,793	102	2,691	0	0	276	0	147	2,370
08-09	2,757	77	2,681	0	0	287	0	150	2,320
09-10	2,996	111	2,885	0	0	289	0	154	2,553
10-11	2,752	74	2,678	0	0	298	0	158	2,296
11-12	2,840	77	2,762	0	0	310	0	159	2,371
12-13	2,886	79	2,807	0	0	324	0	160	2,401
13-14	2,958	80	2,877	0	0	342	0	162	2,454
14-15	2,964	81	2,882	0	0	361	0	164	2,439
15-16	2,995	82	2,913	0	0	379	0	166	2,450
16-17	3,045	83	2,963	0	0	396	0	168	2,481
17-18	3,096	83	3,013	0	0	414	0	170	2,512
18-19	3,154	84	3,069	0	0	432	0	172	2,550
19-20	3,220	86	3,134	0	0	449	0	174	2,597
<b>CAAG</b>									
01-10	2.1%	1.9%	2.1%	0.0%	0.0%	4.2%	0.0%	2.2%	1.9%
10-15	-0.2%	-6.1%	0.0%	0.0%	0.0%	4.5%	0.0%	1.2%	-0.9%
10-20	0.7%	-2.5%	0.8%	0.0%	0.0%	4.5%	0.0%	1.2%	0.2%

NOTE 1: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA)

**GULF POWER COMPANY**

**Schedule 3.3**  
**History and Forecast of Annual Net Energy for Load - GWH**  
**Base Case**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
<u>Year</u>	<u>Total</u>	<u>Residential Conservation</u>	<u>Comm/Ind Conservation</u>	<u>Retail</u>	<u>Wholesale</u>	<u>Utility Use &amp; Losses</u>	<u>Net Energy for Load</u>	<u>Load Factor %</u>
2001	11,801	314	284	10,173	360	671	11,204	57.3%
2002	12,520	323	288	10,772	384	754	11,910	55.2%
2003	12,584	335	297	10,885	383	685	11,952	60.0%
2004	12,813	348	303	11,046	389	727	12,162	57.0%
2005	12,998	357	319	11,239	418	666	12,322	57.8%
2006	13,273	365	322	11,429	415	743	12,586	57.9%
2007	13,373	375	327	11,521	417	733	12,671	54.9%
2008	13,326	378	331	11,543	398	676	12,617	56.5%
2009	12,705	384	345	10,903	390	682	11,975	53.7%
2010	13,256	388	350	11,359	409	750	12,518	56.6%
2011	13,305	424	353	11,421	392	715	12,528	55.2%
2012	13,734	464	359	11,768	405	738	12,911	55.6%
2013	14,118	518	367	12,064	411	758	13,233	56.5%
2014	14,517	575	376	12,369	418	778	13,566	57.2%
2015	14,814	641	387	12,574	422	790	13,786	58.0%
2016	15,049	704	399	12,718	427	801	13,946	58.3%
2017	15,318	762	412	12,899	430	815	14,144	58.6%
2018	15,592	824	425	13,081	435	828	14,343	58.8%
2019	15,909	883	438	13,304	440	844	14,588	58.8%
2020	16,230	940	450	13,536	447	857	14,840	58.7%
<b><u>CAAG</u></b>								
01-10	1.3%	2.4%	2.4%	1.2%	1.4%	1.3%	1.2%	-0.1%
10-15	2.2%	10.6%	2.0%	2.1%	0.6%	1.0%	1.9%	0.5%
10-20	2.0%	9.3%	2.5%	1.8%	0.9%	1.3%	1.7%	0.4%

NOTE: Wholesale and total columns include contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA).

**GULF POWER COMPANY**

**Schedule 4**

Previous Year Actual and Two Year Forecast of Peak Demand and Net Energy for Load by Month

(1)	(2)	(3)	(4)	(5)	(6)	(7)
	2010 Actual		2011 Forecast		2012 Forecast	
<u>Month</u>	<u>Peak Demand</u> <u>MW</u>	<u>NEL</u> <u>GWH</u>	<u>Peak Demand</u> <u>MW</u>	<u>NEL</u> <u>GWH</u>	<u>Peak Demand</u> <u>MW</u>	<u>NEL</u> <u>GWH</u>
January	2,553	1,106	2,296	1,005	2,371	1,039
February	2,144	955	2,083	841	2,226	894
March	1,934	851	1,821	871	1,892	902
April	1,488	803	1,897	859	1,966	889
May	2,219	1,070	2,320	1,096	2,393	1,129
June	2,419	1,244	2,526	1,230	2,581	1,261
July	2,525	1,325	2,592	1,331	2,642	1,363
August	2,458	1,282	2,574	1,319	2,625	1,351
September	2,300	1,139	2,424	1,143	2,482	1,171
October	1,881	891	2,227	1,006	2,288	1,035
November	1,574	796	1,836	870	1,892	896
December	2,314	1,057	2,092	957	2,152	982

NOTE: Includes contracted capacity and energy allocated to certain Resale customers by Southeastern Power Administration (SEPA)

**Gulf Power Company**

**Schedule 5  
Fuel Requirements**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
	<u>Fuel Requirements</u>		<u>Units</u>	<u>Actual 2009</u>	<u>Actual 2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>
(1)	Nuclear		Trillion BTU	None	None	None	None	None	None	None	None	None	None	None	None
(2)	Coal		1000 TON	4,427	5,179	4,478	4,381	5,134	5,726	5,727	5,851	5,887	5,830	6,204	6,051
(3)	Residual	Total	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(4)		Steam	1000 BBL	0	0	0	0	0	0	0	0	0	0	0	0
(5)		CC	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(6)		CT	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(7)		Diesel	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(8)	Distillate	Total	1000 BBL	15	18	9	10	9	8	8	8	8	8	7	8
(9)		Steam	1000 BBL	14	17	9	10	9	8	8	8	8	8	7	8
(10)		CC	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CT	1000 BBL	1	1	0	0	0	0	0	0	0	0	0	0
(12)		Diesel	1000 BBL	None	None	None	None	None	None	None	None	None	None	None	None
(13)	Natural Gas	Total	1000 MCF	28,355	34,320	24,243	24,494	23,695	24,958	26,713	23,725	21,723	25,309	28,853	29,070
(14)		Steam	1000 MCF	632	0	0	0	0	0	0	0	0	0	0	0
(15)		CC	1000 MCF	26,702	31,715	23,845	24,068	23,247	24,950	26,713	23,725	21,723	25,309	28,853	29,070
(16)		CT	1000 MCF	1,021	2,605	398	426	448	8	0	0	0	0	0	0
(17)	Other <sup>(A)</sup>		Trillion BTU	None	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3

(A) Perdido Units 1 and 2 landfill gas burn shown in Other

**Gulf Power Company**

Schedule 6.1  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
			Units	Actual 2009	Actual 2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(1)	Annual Firm Interchange		GWH	(996)	(2,936)	(1,224)	(693)	(2,020)	(3,199)	(2,988)	(2,682)	(2,274)	(2,518)	(3,580)	(3,021)
(2)	Nuclear		GWH	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		GWH	8,871	10,531	10,108	9,916	11,676	13,065	12,935	13,209	13,281	13,213	14,077	13,746
(4)	Residual	Total	GWH	0	0	0	0	0	0	0	0	0	0	0	0
(5)		Steam	GWH	0	0	0	0	0	0	0	0	0	0	0	0
(6)		CC	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(7)		CT	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(8)		Diesel	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(9)	Distillate	Total	GWH	0	0.2	0	0	0	0	0	0	0	0	0	0
(10)		Steam	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CC	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(12)		CT	GWH	0	0.2	0	0	0	0	0	0	0	0	0	0
(13)		Diesel	GWH	None	None	None	None	None	None	None	None	None	None	None	None
(14)	Natural Gas	Total	GWH	4,024	4,805	3,512	3,555	3,443	3,565	3,753	3,332	3,049	3,558	4,000	4,023
(15)		Steam	GWH	6	0	0	0	0	0	0	0	0	0	0	0
(16)		CC	GWH	3,858	4,485	3,423	3,462	3,349	3,514	3,702	3,281	2,998	3,507	4,000	4,023
(17)		CT	GWH	160	320	89	93	94	51	51	51	51	51	0	0
(18)	NUGs		GWH	76	118	132	133	134	135	86	87	88	90	91	92
(19)	Net Energy for Load		GWH	11,975	12,518	12,528	12,911	13,233	13,566	13,786	13,946	14,144	14,343	14,588	14,840

NOTE: Line (18) includes energy purchased from Non-Renewable and Renewable resources. See Schedule 6.3 for details on Gulf's renewable resources .

**Gulf Power Company**

Schedule 6.2  
Energy Sources

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
			Units	Actual 2009	Actual 2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(1)	Annual Firm Interchange		%	(8.32)	(23.46)	(9.77)	(5.37)	(15.26)	(23.58)	(21.67)	(19.23)	(16.08)	(17.56)	(24.54)	(20.36)
(2)	Nuclear		%	None	None	None	None	None	None	None	None	None	None	None	None
(3)	Coal		%	74.08	84.13	80.68	76.80	88.23	96.31	93.83	94.72	93.90	92.12	96.50	92.63
(4)	Residual	Total	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(5)		Steam	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(6)		CC	%	None	None	None	None	None	None	None	None	None	None	None	None
(7)		CT	%	None	None	None	None	None	None	None	None	None	None	None	None
(8)		Diesel	%	None	None	None	None	None	None	None	None	None	None	None	None
(9)	Distillate	Total	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(10)		Steam	%	None	None	None	None	None	None	None	None	None	None	None	None
(11)		CC	%	None	None	None	None	None	None	None	None	None	None	None	None
(12)		CT	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(13)		Diesel	%	None	None	None	None	None	None	None	None	None	None	None	None
(14)	Natural Gas	Total	%	33.60	38.38	28.03	27.53	26.02	26.28	27.22	23.89	21.56	24.81	27.42	27.11
(15)		Steam	%	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
(16)		CC	%	32.22	35.83	27.32	26.81	25.31	25.90	26.85	23.53	21.20	24.45	27.42	27.11
(17)		CT	%	1.34	2.56	0.71	0.72	0.71	0.38	0.37	0.37	0.36	0.36	0.00	0.00
(18)	NUGs		%	0.63	0.94	1.05	1.03	1.01	1.00	0.62	0.62	0.62	0.63	0.62	0.62
(19)	Net Energy for Load		%	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

**Gulf Power Company**  
Schedule 6.3  
Renewable Energy Sources

(1)	(2)	(3) Actuals	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Renewable Energy Sources (A)		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(1) Renewable Generating Capacity												
	MW (B)	3	3	3	3	3	3	3	3	3	3	3
	MWh (C)	62,755	76,475	76,549	76,475	76,475	26,368	26,442	26,368	26,368	26,368	26,442
	% of Capacity Mix	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
	% of NEL	0.5	0.6	0.6	0.6	0.6	0.2	0.2	0.2	0.2	0.2	0.2
	% of Fuel Mix	0.4	0.6	0.6	0.5	0.5	0.2	0.2	0.2	0.2	0.1	0.1
(2) Self-Service Generation By Renewable Generation												
	MW	68	68	68	68	68	68	68	68	68	68	68
	MWh (D)	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies	varies

(A) Owned and/or Purchased by Gulf.  
(B) Includes Firm MWs only.  
(C) Energy produced by firm and non-firm resources.

**This page is intentionally blank.**



## CHAPTER III

### PLANNING ASSUMPTIONS AND PROCESSES

**This page is intentionally blank.**

## **THE INTEGRATED RESOURCE PLANNING PROCESS**

As previously mentioned, Gulf participates in the SES IRP process. This process begins with a team of experts from within and outside the SES that meets to discuss current and historical economic trends and conditions, as well as future expected economic conditions which would impact the SES's business over the next twenty to twenty-five years. This economic panel determines the various escalation and inflation rates that will impact the financial condition of the SES. This determination acts as a basis for developing the general inflation and escalation assumptions that will affect fuel costs, construction costs, labor rates and variable O&M.

In addition to the work of the economic panel, there are a number of activities that are conducted in parallel with one another in the IRP process. These activities include energy and demand forecasting, fuel price forecasting, technology screening analysis and evaluation, engineering cost estimation modeling, evaluation of active and passive demand-side options, and other miscellaneous activities. The SES operating companies have also remained active in offering customers programs and options which result in modified consumption patterns. An important input into the design of such demand-side programs is an assessment of their likely impact on system loads.

Gulf's forecast of energy sales and peak demand reflects the continued impacts of its conservation programs. Furthermore, an update of demand-side

measure cost and benefits is conducted in order to perform cost-effectiveness evaluations against the selected supply-side technologies from the IRP process.

A number of existing generating units on the SES are also evaluated with respect to their currently planned retirement dates, as well as the economics and appropriateness of possible repowering over the planning horizon. These evaluations are extremely important in order to maximize the benefit of existing investment from both a capital and an operations and maintenance expense perspective.

Additionally, the market for potential power purchases is analyzed in order to determine its cost-effectiveness in comparison to the available supply-side and demand-side options. Power purchases are evaluated on both a near-term and long-term basis as a possible means of meeting the system's demand requirements. These power purchases can be procured from utility sources as well as from non-utility generators.

The supply side of the IRP process focuses on the SES as a whole, which has as its planning criterion a 15% reserve margin target for the year 2014 and beyond. This reserve margin is the optimum economic point at which the system can meet its energy and demand requirements after accounting for load forecast error, abnormal weather conditions, and unit forced outage conditions. It also balances the cost of adding additional generation with the societal cost of not serving all the energy requirements of the customer.

Once the above mentioned planning assumptions are determined, generating unit technologies are screened to determine the most acceptable

candidates, the necessary planning inputs are defined and the generation mix analysis is initiated. The main optimization tool used in the generation mix analysis is the PROVIEW® model. The supply-side technology candidates are input into PROVIEW® in specific MW block sizes for selection over the planning horizon for the entire SES. Although this model uses many data inputs and assumptions in the process of optimizing system generation additions, the key assumptions are load forecasts, demand-side options, candidate units, reserve margin requirements, cost of capital, and escalation rates.

PROVIEW® uses a dynamic programming technique to develop the optimum resource mix. This technique allows PROVIEW® to evaluate for every year all of the many combinations of generation additions that satisfy the reserve margin constraint. Annual system operating costs are simulated and are added to the construction costs required to build each combination of resource additions. A least cost resource addition schedule is developed by evaluating each year sequentially and comparing the results of each combination. A least cost resource plan is developed only after reviewing many construction options.

PROVIEW® produces a number of different combinations over the planning horizon, evaluating both the capital cost components for unit additions as well as the operating and maintenance cost of existing and future supply option additions. The program produces a report which ranks all of the different combinations with respect to the total net present value cost over the entire twenty-year planning horizon. The leading combinations from the program are then evaluated for reasonableness and validity. Once again, it is important to

note that supply option additions from the PROVIEW® program output are for the entire SES and are reflective of the various technology candidates selected.

After the SES results are verified, each individual operating company's specific needs over the planning horizon are evaluated. Each company is involved in recommending the type and timing of its unit additions. When all companies are satisfied with their capacity additions, and the sum of these additions matches the system need, the system base supply-side plan is complete. The result is an individual operating company supply plan that fits within the SES planning criteria.

Once the individual operating company supply plans are determined, it is necessary to evaluate demand-side options as a cost-effective alternative to the supply plan additions. After the incorporation of the cost effective demand-side impacts, a final integrated resource plan is produced.

Finally, a financial analysis of the plan is performed to assess the impact on the system's cost. Once the plan has proven to be robust and financially feasible, it is reviewed with and presented for approval to executive management.

In summary, the SES IRP process involves a significant amount of *manpower and computer resources in order to produce a truly least-cost, integrated demand-side and supply-side resource plan.* During the entire process, the SES is continually looking at a broad range of alternatives in order to meet the SES's projected demand and energy requirements. The SES updates its IRP each year to account for the changes in the demand and energy

forecast, as well as the other major assumptions previously mentioned in this section. A remix is then performed to insure that the IRP is the most economical and cost-effective plan. The resulting product of the SES IRP process is an integrated plan which meets the needs of the SES's customers in a cost-effective and reliable manner.

### **TRANSMISSION PLANNING PROCESS**

The transmission system is not studied as a part of the IRP process, but it is studied, nonetheless, for reliability purposes. Commonly, a transmission system is viewed as a medium used to transport electric power from its generation source to the point of its conversion to distribution voltages under a number of system conditions known as contingencies. The results of the IRP are factored into transmission studies in order to determine the impacts of various generation site options upon the transmission system. The transmission system is studied under different contingencies for various load levels to insure that the system can operate adequately without exceeding conductor thermal and system voltage limits.

When the study reveals a potential problem with the transmission system that warrants the consideration of correction in order to maintain or restore reliability, a number of possible solutions are identified. These solutions and their costs are evaluated to determine which is the most cost-effective. Once a solution is chosen to correct the problem, a capital budget expenditure request is prepared for executive approval. However, not all thermal overloads or voltage

limit violations warrant correction. This may be due to the small magnitude of the problem or because the probability of occurrence is insufficient to justify the capital investment of the solution.

In prior years, Gulf has entered into a series of purchased power agreements to meet its needs, and it will continue this practice in the future when economically attractive opportunities are available. The planned transmission has proven adequate to handle these purchased power transactions during the periods when Gulf has needed additional capacity. It has been and will continue to be Gulf's practice to perform a transmission analysis of viable purchased power proposals to determine any transmission constraints. Gulf will formulate a plan, if needed, to resolve any transmission issues in a reasonable, cost effective manner prior to proceeding with negotiations for purchased power agreements.



## **FUEL PRICE FORECAST PROCESS**

### **FUEL PRICE FORECASTS**

Fuel price forecasts are used for a variety of purposes within the SES, including such diverse uses as long-term generation planning and short-term fuel budgeting. The SES fuel price forecasting process is designed to support these various uses.

The delivered price of any fuel consists of a variety of components. The main components are commodity price and transportation cost. Coal commodity domestic prices are forecast on either a mine-mouth basis or freight on board (FOB) barge basis, while import coals are forecast on an FOB ship basis at the port of export. Natural gas prices are forecast at the Henry Hub, Louisiana benchmark delivery point. Because mine-mouth coal prices vary by source, sulfur content, and Btu level, SES prepares commodity price forecasts for fifteen different coal classifications used on the SES. Because natural gas does not possess the same quality variations as coal, SES prepares a single commodity price forecast for gas at Henry Hub, and applies a basis differential between Henry Hub and the various pipelines serving SES plants. Two price forecasts are developed for oil, based on grade of oil, sulfur, and heat content.

Transportation costs, to be used in the delivered price forecast, are developed for potential sites when modeling generic unit additions in the IRP process. Site-specific transportation costs are developed for existing units to produce delivered price forecasts for both the IRP process and the fuel budget process. Similarly, when site-specific unit additions are under consideration, site-specific transportation costs are developed for each option.

## **SES GENERIC FUEL FORECAST**

SES develops short-term (current year +2) and long-term (year 4 and beyond) fuel price forecasts for coal, oil, and natural gas which extend through the Company's 10-year planning horizon. The short-term forecasts are used in the system's fuel budgeting process and marginal pricing dispatch procedures. This forecast is developed by SCS Fuel Services and is approved by the designated fuel managers from each of the SES operating companies.

The long-term forecasts are developed in early spring of each year for use in system planning activities. The long-term forecasts are governed by the SCS Executive Planning Coordination Team (Executive PCT). Charles River & Associates International (CRA) is the modeling vendor used by the system to develop the long-term forecasts. This process is a collaborative effort between CRA and members of the cross-functional Planning Coordination Team (PCT) with final approval from the Executive PCT and/or Southern Company Management Council.

Fuel assumptions, provided by SES, are integrated into CRA's model to develop forecasted coal prices used in the IRP. These prices are developed for existing units and potential green field/brown field sites for future expansion, and include both commodity and transportation prices.

The 2011 commodity price forecasts for bituminous 1.0% sulfur coal, natural gas and low sulfur #2 oil are included in the table below.

**SES GENERIC FUEL PRICE FORECAST**  
(\$/MMBtu)

	COAL*	NAT. GAS**	OIL***
2011	3.083	5.048	15.33
2012	3.083	5.422	16.02
2013	3.104	6.238	17.81
2014	2.686	7.606	20.65
2015	2.267	8.973	23.49
2016	2.309	9.444	24.82
2017	2.351	9.915	26.16
2018	2.394	10.386	27.49
2019	2.437	10.857	28.82
2020	2.481	11.327	30.15

\*Central Appalachia CSX, 12000 Btu/lb., 1% Sulfur

\*\*Henry Hub

\*\*\*U.S. Gulf Coast LS No. 2 Oil, 0.05% Sulfur

**COAL PRICE FORECAST**

In 2010, coal production in the United States reached 1.05 billion short tons, a 6.3% decrease over year 2009 production levels. This decrease was determined using a revised production total of 1.12 billion short tons for 2009. The Central Appalachian region in the U.S. experienced a 13% decrease in production. The Interior region (Illinois Basin) of the U.S. recorded a 3.7% decrease in production. The Western U.S. region (Powder River Basin, Colorado, Utah and Wyoming), also experienced a 1.2% increase in production.

The coal market in 2010 recovered substantially from low prices experienced in 2009, but remained much lower than the unprecedented high levels of 2008. The slowly recovering U.S. economy and global demand from coal importing countries supported higher prices. Also, concerns over regulatory actions, such as permitting issues, and their negative impact on production placed upward pressure on prices.

Central Appalachian and Colombian coal prices have been steadily increasing since the beginning of 2010. 2009 saw a “bottoming out” of coal prices due to the global recession and prices were driven even lower by low gas prices. Starting in 2010, coal demand slowly began to return as global economic activity picked up. Domestic coal stockpiles, while still high, are lower than they were in 2009 resulting in some return of domestic demand.

Global coal demand has increased in terms of both metallurgical coal used for steel production, and thermal/steam coal used for electric generation. Asian demand for steam coal is high and is being supplied from South Africa, Australia, and others. Short-term European demand has increased with recent cold weather and Asian demand has forced Europe to look to Colombia and the U.S. for immediate coal supply. In addition to increased global demand for Colombian coal, heavy regional rains in late 2010 have also impacted prices.

Central Appalachian prices are also experiencing upward pressure with the *region’s permitting hurdles expected to intensify in 2011 and constrict production.*

Flooding in Australia at the end of 2010 will mostly impact the metallurgical coal market. However, crossover tons (those which can serve both steam and metallurgical

markets) from the U.S. will export out of Central Appalachia further shrinking supply and placing upward pressure on coal prices.

### **NATURAL GAS PRICE FORECAST**

Natural gas supply continues to outpace demand, thus 2010 continued to see low prices. Although the beginning of the year saw a spike in Henry Hub prices, they moderated quickly and maintained an average of \$4.37 throughout the year, with equal low prices in both April and October of \$3.18. In December 2009, EIA's short-term energy outlook forecasted an annual average Henry Hub price of \$4.50, which was only slightly higher than the actual 2010 average. While natural gas production continued at high levels throughout 2010, cooler winter and warmer summer weather contributed to higher demands than initially anticipated. Although storage levels fluctuated throughout 2010, the levels at the end of the year were almost identical to those at the beginning of the year. The decreasing prices here in the U.S. led to lower LNG imports for 2010 as cargoes could be offloaded elsewhere for higher prices. Due to the abundant supply of shale gas through unconventional methods and the continued slump in the economy, the domestic price of natural gas is expected to remain low in the near term.

Analysts' prediction for 2011 prices varied between \$3.50 and \$4.50 and the long-term prices are still indicating rising prices, just at a lesser rate than previously forecasted. Although carbon legislation is not assumed in these numbers, contributing factors for higher gas prices still include increased oil prices and unclear energy policies (especially with respect to hydraulic fracturing).

## **NATURAL GAS AVAILABILITY**

All indications point to continued oversupply in the near-term of natural gas by unconventional methods in shale regions throughout the nation. There continues to be regulatory challenges to the hydraulic fracturing technology, which would severely dampen the production capability within the U.S. and would increase the price of extraction. LNG imports have waxed and waned over the last several years, but 2010 import levels were down slightly from 1.2 Bcfd in 2009 to 1.15 Bcfd. LNG imports are expected to decrease 4.4% to 1.1 Bcfd in 2011 and only return to 2009 levels by 2012.

Due to moderated demand and increases in gas production, sufficient gas supply remains available to meet operating needs. Pricing will remain soft in the near term as a result of the oversupply of gas relative to demand and may remain soft as demand remains relatively flat.

## STRATEGIC ISSUES

Gulf has successfully executed three PPAs that provide supply-side diversity and the flexibility for Gulf to adapt its future generation expansion plans to changing market conditions without negative financial impacts to the Company and its customers. Two of these PPAs currently supply 496 MW of firm peaking capacity from dual-fuel fired combustion turbines (CT), and they will continue to serve system load until their expiration on May 31, 2014. No later than June 2014, Gulf's third PPA, the Shell PPA, will provide 885 MW of firm capacity and energy from an existing gas-fired combined cycle (CC) generating unit that is interconnected with the SES in Alabama. The Shell PPA, approved by the FPSC in September 2009, will meet Gulf capacity needs through the end of the 2011 TYSP planning cycle and will expire on May 24, 2023. This strategy of supplementing Gulf's development of long-term capacity resources with shorter-term power purchases has proven to be effective over the years, and Gulf will continue to follow this strategy when appropriate and cost-effective to do so in the future.

Another important strategic advantage for Gulf is its association with the SES as it relates to integrated planning and operations. Drawing on the planning resources of SCS to perform coordinated planning and having the capacity resources of the SES available to Gulf through the Intercompany Interchange Contract's (IIC) reserve sharing mechanism in times when Gulf is temporarily short of reserves are key benefits that Gulf and its customers realize through its

association with the SES. In addition, the SES's generation organization actively pursues firm energy market products at prices that can lead to significant savings to the SES and its customers.

Over the next decade, Gulf will face significant challenges in developing a generation expansion plan that serves not only its customers' load growth but its existing base need for capacity. As discussed in the Environmental Concerns section of this TYSP, compliance with additional environmental regulations that require lower emissions from power plants, may lead to accelerated retirements of Gulf's existing coal units and the addition of new gas-fired and nuclear units to replace this capacity. Gulf continues to monitor the development of state and national policy in the area of air and water regulations, and will consider its options for compliance with the resulting regulations while still fulfilling its obligation to serve the energy needs of its retail customers in Northwest Florida with reliable and reasonably priced electricity. With the addition of the three PPAs that provide 1381 MW of gas-fired capacity during the 2011-2020 planning cycle, Gulf is well positioned to meet current and future load requirements regardless of which, if any, of the currently proposed state and federal environmental compliance standards ultimately become effective.



## **ENVIRONMENTAL CONCERNS**

Gulf will continue to take all necessary actions to fully comply with all environmental laws and regulations as they apply to the operation of Gulf's existing generation facilities and the installation of new generation. Having executed the 885 MW Shell PPA, Gulf's next potential generating unit addition would not be on-line until the 2022-2023 timeframe. If needed, this unit will be designed and constructed to comply with all applicable environmental laws and regulations.

Gulf has developed and routinely updates its environmental compliance strategy to serve as a road map for a reasonable, least-cost compliance plan. This road map establishes general direction, but allows for individual decisions to be made based on specific information available at the time. This approach is an absolute necessity in maintaining the flexibility to match a dynamic regulatory environment with the variety of available compliance options. Gulf updates or reviews its environmental compliance strategy on an annual basis unless significant events dictate otherwise. The focus of the strategy updates is centered on compliance with the acid rain requirements and other significant clean air requirements, as well as potential new requirements. There are a number of issues and uncertainties associated with future regulatory requirements that could significantly impact both the scope and cost of compliance over the next decade. The following is a summary of Gulf's actions taken, or to be taken to comply with each major area of existing and emerging environmental law and regulations.

### **Clean Air Act Amendments of 1990**

In 1990, Congress passed major revisions to the Clean Air Act requiring existing coal-fired generating plants to substantially reduce air emissions of sulfur dioxide (SO<sub>2</sub>) and nitrogen oxides (NO<sub>x</sub>) by 50 percent by the end of 2000. Compliance actions for SO<sub>2</sub> have included fuel switching to lower sulfur coals coupled with the use of banked emission allowances and the acquisition of additional allowances for future year compliance. Also, Gulf completed installation and began operating flue gas de-sulfurization equipment on Plant Crist Units 4 through 7 in December 2009 which is now achieving significant reductions of SO<sub>2</sub> emissions at these coal-fired units. In addition to reducing SO<sub>2</sub> emissions, Gulf has installed low NO<sub>x</sub> burners and additional post-combustion NO<sub>x</sub> control on all but two of its coal-fired units. The Company utilizes a system-wide NO<sub>x</sub> emissions averaging plan to meet the requirements of the Act.

### **Air Quality Standards for Ozone**

In 1997, the Environmental Protection Agency (EPA) announced a stringent new eight-hour National Ambient Air Quality Standard (NAAQS) for ozone based on an eight-hour average. In 2002, Gulf entered into an agreement with the Florida Department of Environmental Protection (FDEP) to reduce NO<sub>x</sub> emissions at Plant Crist in order to help ensure that the new ozone standard is attained in the Pensacola area. Gulf installed Selective Catalytic Reduction (SCR) controls on Crist Unit 7 in May 2005. In addition to the SCR control on Unit 7, the Company installed Selective Non-Catalytic Controls (SNCR) and over-fire air on Crist Unit 6 in February 2006 and SNCR controls on Crist Unit 4

and Unit 5 in April 2006. These controls have achieved the overall plant-wide NO<sub>x</sub> emissions average of 0.20 lbs/mmbtu as outlined in the FDEP Agreement. Gulf also retired Crist Unit 1 in March 2003 and Crist Units 2 and 3 in May 2006.

All Florida counties currently meet the standard, however in March 2008, the EPA issued new rules establishing a more stringent eight-hour ozone standard. In January 2010 the EPA proposed further reductions in the eight-hour standard. Based on data from 2007-2009, counties served by Gulf would be designated nonattainment under the new standard. The EPA is expected to finalize the revised ozone standard in July 2011, and States must implement plans for any nonattainment areas by mid-2014. The revised eight-hour ozone standard is expected to result in designation of new nonattainment areas served by the Company, and could result in additional required reductions in NO<sub>x</sub> emissions.

#### **Air Quality Standards for Fine Particulate Matter**

The EPA's annual fine particulate matter nonattainment designations became effective for several geographical areas served by the Southern Company in 2005. State implementation plans that address attainment with the fine particulate standard for all areas have been submitted to the EPA. The EPA is expected to propose new annual and 24-hour fine particulate matter standards during the Summer of 2011. Compliance with these standards could require further reductions in SO<sub>2</sub> and NO<sub>x</sub> emissions from power plants, including plants owned in part by the Company.

### **Air Quality Standards for SO<sub>2</sub> and NO<sub>2</sub>**

On December 8, 2009, the EPA also proposed revisions to the National Ambient Air Quality Standard for SO<sub>2</sub>. These revisions, which include the establishment of a new one-hour standard, became effective on August 23, 2010. Identification of potential non attainment areas remains uncertain and could ultimately include geographical areas served by the Company. Implementation of the revised SO<sub>2</sub> standard could result in additional required reductions in SO<sub>2</sub> emissions and increased compliance and operation costs.

Revisions to the National Ambient Air Quality Standard for Nitrogen Dioxide (NO<sub>2</sub>), which established a new one-hour standard, became effective on April 12, 2010. Although none of the geographical areas served by the Company are expected to be designated as non attainment for the NO<sub>2</sub> standard, based on current ambient air quality monitoring data, the new NO<sub>2</sub> standard could result in significant additional compliance and operational costs for units that require new source permitting.

### **Clean Air Interstate Rule**

The EPA issued its final Clean Air Interstate Rule (CAIR) in March 2005. This cap-and-trade rule addresses power plant SO<sub>2</sub> and NO<sub>x</sub> emissions that were found to contribute to nonattainment of the eight-hour ozone and fine particulate matter standards in downwind states. Twenty-eight eastern states, including Florida and Mississippi, are subject to the requirements of the rule. The rule calls for additional reductions of NO<sub>x</sub> and/or SO<sub>2</sub> to be achieved in two phases, 2009/2010 and 2015, respectively. In July 2008 and December 2008, the U.S. Court of Appeals for the District of Columbia Circuit issued decisions

invalidating certain aspects of CAIR, but left CAIR compliance requirements in place while the EPA develops a revised rule. The states of Florida, and Mississippi have completed plans to implement CAIR, and compliance with this rule is being accomplished by the installation and operation of emission controls at Gulf's coal-fired facilities and/or by the purchase of emission allowances.

On August 2, 2010, the EPA published the Transport Rule to replace CAIR. This proposed rule would require many states in the Eastern U.S. to reduce power plant emissions of SO<sub>2</sub> and NO<sub>x</sub> that contribute to downwind states' nonattainment of federal ozone and/or fine particulate matter ambient air quality standards. To address fine particulate matter standards, the proposed Transport Rule would require Eastern states, including Florida, to reduce annual emissions of SO<sub>2</sub> and NO<sub>x</sub> from power plants. To address ozone standards, the proposed Transport Rule would also require states, including Florida and Mississippi, to achieve additional reductions in NO<sub>x</sub> emissions from power plants during the ozone season. The EPA also intends to develop a second phase of the Transport Rule in 2011 to address the more stringent ozone air quality standards after they are finalized. The EPA expects to finalize the Transport Rule in June 2011 and require compliance beginning in 2012.

#### **Clean Air Visibility Rule**

The Clean Air Visibility Rule (CAVR) was finalized in July 2005. The goal of this rule is to restore natural visibility conditions in certain areas (primarily national parks and wilderness areas) by 2064. The rule involves the application of Best Available Retrofit Technology (BART) to certain sources built between 1962 and 1977 and any additional emission reductions necessary for each

designated area to achieve reasonable progress by 2018 and for each 10-year period thereafter. For power plants, the CAVR allows states to determine that CAIR satisfies BART requirements for SO<sub>2</sub> and NO<sub>x</sub>. States have completed or are currently completing implementation plans for BART compliance and other measures required to achieve the first phase of reasonable progress. The Florida Regional Haze rule, Chapter 62 Part 296.340, F.A.C., requires BART compliance as expeditiously as practicable, but not later than December 31, 2013.

#### **Clean Air Mercury Rule**

In March 2005, the EPA published the final Clean Air Mercury Rule (CAMR), a cap-and-trade program for the reduction of mercury emissions from coal-fired power plants. In February 2008, however, the U.S. Court of Appeals for the District of Columbia Circuit issued an opinion vacating the federal CAMR, *thus eliminating requirements for generating facilities to install mercury controls to meet the CAMR cap and trade emission limits.*

The EPA has entered into a proposed consent decree that required it to develop a Maximum Achievable Control Technologies (MACT) rule that limits the emission of numerous hazardous air pollutants, including mercury, from power plants. The decree required the EPA to issue a proposed rule by March 2011, and to finalize the rule by November 2011. Gulf is expected to be required to comply with the new MACT rules by early 2015. Development of new MACT standards could require substantial capital expenditures or affect the timing of current budgeted capital expenditures.

## **Clean Water Act**

In July 2004, the EPA published final regulations under the Clean Water Act to reduce impingement and entrainment of fish, shellfish and other forms of aquatic life at existing power plant cooling water intake structures. On April 1, 2009, the U.S. Supreme Court held that the EPA could consider costs in arriving at its standards and in providing variances from those standards for existing intake structures. Therefore, the EPA is expected to propose revisions to these the regulations by March 2011, and to finalize the regulations by mid-2012. While the U.S. Supreme Court's decision may ultimately result in greater flexibility for demonstrating compliance with the standards, the full scope of compliance requirements will depend on specific provisions of the EPA's final rule and the actual requirements established by state regulatory agencies. If the final rules require the installation of cooling towers at certain existing Gulf Power facilities, the Company may be subject to significant additional compliance costs and capital expenditures that could affect future unit retirement and replacement decisions.

On December 28, 2009, the EPA determined that revision of the current effluent guidelines for steam electric power plants was warranted, and it now proposes to adopt such revisions by January 2014. New wastewater treatment requirements are expected and may result in the installation of additional controls on certain Company facilities. In addition to this federal action, the State of Florida is finalizing nutrient water quality standards to limit the amount of nitrogen and phosphorous allowed in state waters. The ultimate impact of these federal and state guidelines and standards will depend on the studies conducted

in connection with the rulemaking, as well as the specific requirements of the final rule.

### **Coal Combustion Byproducts**

The EPA is currently evaluating whether additional regulation of coal combustion byproducts is merited under federal solid and hazardous waste laws. The EPA has collected information from the electric utility industry on surface impoundment safety and conducted on-site inspections at three Southern Company system facilities as part of its evaluation. On June 21, 2010, the EPA issued a proposal rule and requested comments on two options regarding the management and disposal of coal combustion byproducts. Adoption of either option to further regulate coal combustion byproducts could have a significant impact on the Company's management, beneficial use, and disposal of such byproducts and could result in significant additional compliance costs that could affect future unit retirement and replacement decisions.

### **Global Climate Issues**

The American Clean Energy and Security Act of 2009, which was passed by the U.S. House of Representatives, and other similar proposals failed to be passed in the U.S. Senate during the 2010 legislative session. Although Federal legislative proposals that would impose mandatory requirements related to greenhouse gas emissions (GHG) may continue to be considered in Congress, the EPA is moving forward with regulation of greenhouse gases under the Clean Air Act.



On April 1, 2010, the EPA issued a final rule regulating GHG emissions from new motor vehicles under the Clean Air Act. The EPA has stated that because this rule became effective in January 2011, it causes carbon dioxide and other GHGs to become regulated pollutants under EPA programs which both apply to power plants. As a result, the construction of new facilities or the major modification of existing facilities could require the installation of the best available control technology for carbon dioxide and other GHGs.

The EPA issued its final rule, known as the Tailoring Rule, governing how these programs would be applied to stationary sources, including power plants, on May 13, 2010. This rule establishes two phases for applying Prevention of Significant Deterioration (PSD) and Title V requirements to greenhouse gas emissions sources. In addition to these rules, the EPA has entered into a proposed settlement agreement to issue standards of performance for greenhouse gas emissions from new and modified fossil fuel-fired electric generating units and greenhouse gas emissions guidelines for existing sources. Under the proposed settlement agreement, the EPA commits to issue the proposed standards by July 2011 and the final standards by May 2012. EPA's final Clean Air Act rulemakings have been challenged in the U.S. Court of Appeals for the District of Columbia Circuit, but the court declined motions to stay the rules pending resolution of those challenges. As a result, the rules may impact the amount of time it takes to obtain PSD permits for new generation and major modifications to existing generating units.

On June 25, 2008 Florida's Governor signed into law House Bill 7135 that includes authorizations for the Florida Department of Environmental Protection

(FDEP) to develop rules for a cap-and-trade program to address GHG emissions from electric utilities, conditioned upon their ratification by the Florida legislature no sooner than the 2010 legislative session. The legislation also authorized the FPSC to adopt a renewable portfolio standard (RPS) for public utilities subject to legislative ratification. As of March 2011, the FDEP has not completed a rulemaking for the state cap-and-trade program. Also, the FPSC submitted its draft RPS rule to the legislature in January 2009, but it has not been ratified.

Although the ultimate outcome of these federal and state rulemaking activities cannot be determined at this time, Gulf has made substantial investments in environmental controls to comply with current and pending laws regulations. Any future mandatory restrictions on the Company's power plant emissions could result in significant additional compliance costs that could affect future unit retirement and replacement decisions.

Gulf will continue its involvement in the development of strategies to address any future clean air, water, or other requirements in order to minimize the uncertainty related to the scope and cost of compliance. As new initiatives emerge, Gulf will support any proposal that would help it meet environmental goals and objectives in a logical and cost effective way, provided that the standards are based on sound science and economics which allow for adequate time to comply without compromising the safe, reliable and affordable supply of electricity to Gulf's customers.

## **AVAILABILITY OF SYSTEM INTERCHANGE**

Gulf coordinates its operations with the other operating companies of the SES: Alabama Power Company, Georgia Power Company, Mississippi Power Company, and Southern Power Company. In any year, an individual operating company may have a temporary surplus or deficit in generating capacity, depending on the relationship of its generating capacity to its load and reserve responsibility. Each SES operating company either buys or sells its temporary deficit or surplus capacity from or to the pool in order to satisfy its reserve responsibility requirement. This is accomplished through the reserve sharing provisions of the SES Intercompany Interchange Contract (IIC) that is reviewed and updated annually.

## **OFF-SYSTEM SALES**

Gulf and other SES operating companies have negotiated the sale of firm capacity and energy specific generating units to several utilities outside the SES. Three contracts have been executed, and became effective in June 2010. Two of the contracts end in December 2015, while the other contract will end in December 2019. Gulf's share of the capacity and energy sales is reflected in the reserves on Schedules 7.1 and 7.2 and the energy and fuel use on Schedules 5 and 6.1.

**This page is intentionally blank.**

## CHAPTER IV

### FORECAST OF FACILITIES REQUIREMENTS

**This page is intentionally blank.**

## CAPACITY RESOURCE ALTERNATIVES

### POWER PURCHASES

Gulf's use of purchased power arrangements in previous years has proven to be a successful approach to meeting its reliability needs. As Gulf considers resources that can potentially meet its future need for capacity, longer-term purchased power from the market will be factored into expansion studies in order to evaluate its effect on supply flexibility and reduced commitment risk during periods in which environmental regulations (with considerable economic impacts) and legislative initiatives focusing on generation additions are in various stages of development.

Gulf will continue to utilize both short-term and longer-term purchased power in the future to balance its approach to supply side resource development. In efforts to further diversify its generation fuel mix, Gulf has secured the supply of capacity and/or energy from several renewable facilities. Gulf successfully negotiated a PPA for renewable energy produced by a municipal solid waste facility in 2008 and constructed a landfill gas-fired generating facility that began providing capacity and energy in 2010. Gulf is prepared to secure renewable resources in the future as conditions warrant. If future solicitations ultimately result in projects that are competitive with resources that Gulf would otherwise develop, the Company will secure this renewable capacity and energy through a PPA or construct the facility itself.

Gulf also has access to possible purchases of renewable energy through its Renewable Standard Offer Contract (RSOC) on file with the FPSC. Consistent with state law, Gulf updates its pricing for the RSOC as needed so that a standard offer for the purchase of renewable energy is continually available to developers of renewable resources. Gulf may also negotiate a PPA with a renewable energy supplier if the terms and conditions of the RSOC are not suitable for a particular renewable project.

### **CAPACITY ADDITIONS**

In conjunction with the SES, Gulf will conduct economic evaluations of its potential supply options in order to determine the most cost-effective means of meeting its future capacity obligations. Gulf will evaluate its internal construction options versus external development of capacity resources in order to determine how to best meet its future capacity obligations. All commercially available generating technologies such as gas combustion turbine and combined cycle, conventional pulverized coal, and nuclear will be included in future SES IRP mix studies. In addition, emerging Integrated Gasification Combined Cycle (IGCC) technologies, such as air blown IGCC, will be added to the future generation mix studies so that their potential economic and technical viabilities may be evaluated. The SES will gain valuable operational experience that aids in approximating the economic and performance characteristics of full-scale air blown IGCC facilities when the Mississippi Power Company IGCC facility in Kemper County, Mississippi facility begins operation in 2014. The potential



benefits of this technology include greater efficiency and lower environmental emissions.

If subsequent mix studies or RFPs identify alternative power supply technologies or purchased power options that are more economical or that deliver more desirable results, Gulf will modify its expansion plan to reflect the proposed procurement of these resources. Gulf will continue to review all available capacity resource possibilities in order to serve the energy needs of its retail customers in Northwest Florida with reliable and reasonably priced electricity.

**This page is intentionally blank.**

## **PREFERRED AND POTENTIAL SITES FOR CAPACITY ADDITIONS**

Gulf will not need to construct new generating facilities or purchase additional generating capacity during the 2011-2020 planning cycle due to the firm capacity provided by its 885 MW Shell PPA. Because the Company's next need for capacity does not begin to develop until 2022, Gulf will consider its existing Florida sites at Plant Crist in Escambia County, Plant Smith in Bay County, and Plant Scholz in Jackson County, as well as its greenfield Florida site at Shoal River in Walton County as potential sites for locating future generating unit(s) in Northwest Florida.

Each of these potential sites has unique characteristics that offer construction and/or operational advantages related to the potential installation of natural gas-fired CTs, which are indicated as the next potential type of capacity needed. Site selection for Gulf's next planned generating unit will be based on existing infrastructure, available acreage and land use, transmission, fuel facilities, environmental factors including evolving ozone standards, and overall project economics. The required environmental and land use information for each potential site is set forth below.

### **Potential Site #1: Plant Crist, Escambia County**

The project site would be located on Gulf's existing Plant Crist property in Escambia County, Florida. If a future project is ultimately located on this property, detailed studies must first be completed to determine the exact size and location of the project site within the plant property's boundaries in order to meet Gulf's needs while insuring full compliance with local, state, and federal requirements. The plant property, approximately 10 miles north of Pensacola, Florida, can be accessed via county roads from nearby U. S. Highway 29. As shown on Schedule 1, the existing Plant Crist facility consists of 906 MW of steam generation.

### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the Plant Crist property is found on page 74 of this chapter.

### **Land Uses and Environmental Features**

The Plant Crist property is dedicated to industrial use. The land adjacent to the property is currently being used for residential, commercial, and industrial purposes. General environmental features of the undeveloped portion of the property include mixed scrub, mixed hardwood/pine forest, and some open grassy areas. This property is located on the Escambia River. There are no unique or significant environmental features on the property that would substantially affect project development.

### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use a combination of groundwater from on-site wells, available surface water, and reclaimed water sources.

### **Potential Site #2: Plant Smith, Bay County**

The project site would be located on Gulf's existing Plant Smith property in Bay County, Florida. If a future project is ultimately located on this property, detailed studies must first be completed to determine the exact size and location of the project site within the plant property's boundaries in order to meet Gulf's needs while insuring full compliance with local, state, and federal requirements. The plant property, approximately 10 miles northwest of Panama City, Florida, is located on North Bay and can be accessed via a county road from nearby State Road 77. As shown on Schedule 1, the existing Plant Smith facility consists of 357 MW of steam generation, 556 MW of combined cycle generation, and 32 MW of CT generation.

### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the Plant Smith property is found on page 75 of this chapter.

### **Land Uses and Environmental Features**

The Plant Smith property is dedicated to industrial use. The land adjacent to the property is rural and consists of planted pine plantations. General environmental features of the property include a mixture of upland and

wetland areas. This property is located on North Bay, which connects to St. Andrews Bay. The property has no unique or significant environmental features that would substantially affect project development.

### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use a combination of groundwater from on-site wells and available surface water.

### **Potential Site #3: Plant Scholz, Jackson County**

The project site would be located on Gulf's existing Plant Scholz property in Jackson County, Florida. If a future project is ultimately located on this property, detailed studies must first be completed to determine the exact size and location of the project site within the plant property's boundaries in order to meet Gulf's needs while insuring full compliance with local, state, and federal requirements. The plant property, approximately 3 miles southeast of Sneads, Florida, is located on the Apalachicola River and can be accessed via a private road from nearby U. S. Highway 90. As shown on Schedule 1, the existing Plant Scholz facility consists of 92 MW of steam generation.

### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the Plant Scholz property is found on page 76 of this chapter.

### **Land Uses and Environmental Features**

The Plant Scholz property is dedicated to industrial use. The land adjacent to the property is primarily rural and in a natural state, but some agricultural development exists. General environmental features of the property include a mixture of hardwood and pine forest areas. This property is located on the Apalachicola River. Because the river is designated as *Outstanding Florida Waters*, certain criteria must be satisfied to ensure that the river is not significantly degraded. Water withdrawals for any future generation sited here would be limited to volumes currently permitted for Plant Scholz. There are no other unique or significant environmental features that would substantially affect project development.

### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use a combination of groundwater from on-site wells and available surface water.

### **Potential Site #4: Shoal River Property, Walton County**

The project site would be located on undeveloped Gulf property in Walton County, Florida. If the project is ultimately located on this property, detailed studies will first be required to determine the exact size and location of the project site within the property's boundaries in order to meet Gulf's needs while

insuring full compliance with local, state, and federal requirements. This property, also referred to as the Mossy Head property, is approximately 3 miles northwest of Mossy Head, Florida. It is located on the Shoal River and can be accessed via a county road from nearby U. S. Highway 90.

#### **U. S. Geological Survey (USGS) Map**

A USGS map showing the general location of the Shoal River property is found on page 77 of this chapter.

#### **Land Uses and Environmental Features**

The Shoal River property is currently dedicated to agricultural and rural residential use. The northern part of the site, some 150 acres, is designated General Agricultural in Walton County's Comprehensive Future Land Use Plan. The land adjacent to the property is rural and in a natural state. General environmental features of the property mainly include wooded upland areas. This property is located on the Shoal River. Because the river is designated as Outstanding Florida Waters, certain criteria must be satisfied to ensure that the river is not significantly degraded. There are no other unique or significant environmental features on the property that would substantially affect project development.

#### **Water Supply Sources**

For industrial processing, cooling, and other water needs, Gulf would likely use groundwater from on-site wells.



**Notes:**

1. Grid lines shown are based on the Florida North Zone (#903), NAD83-90 H.A.R.N. State Plane Coordinate System.
2. Taken from U.S.G.S. Quadrangle Maps "Pace, Fl and Cantonment, Fl."

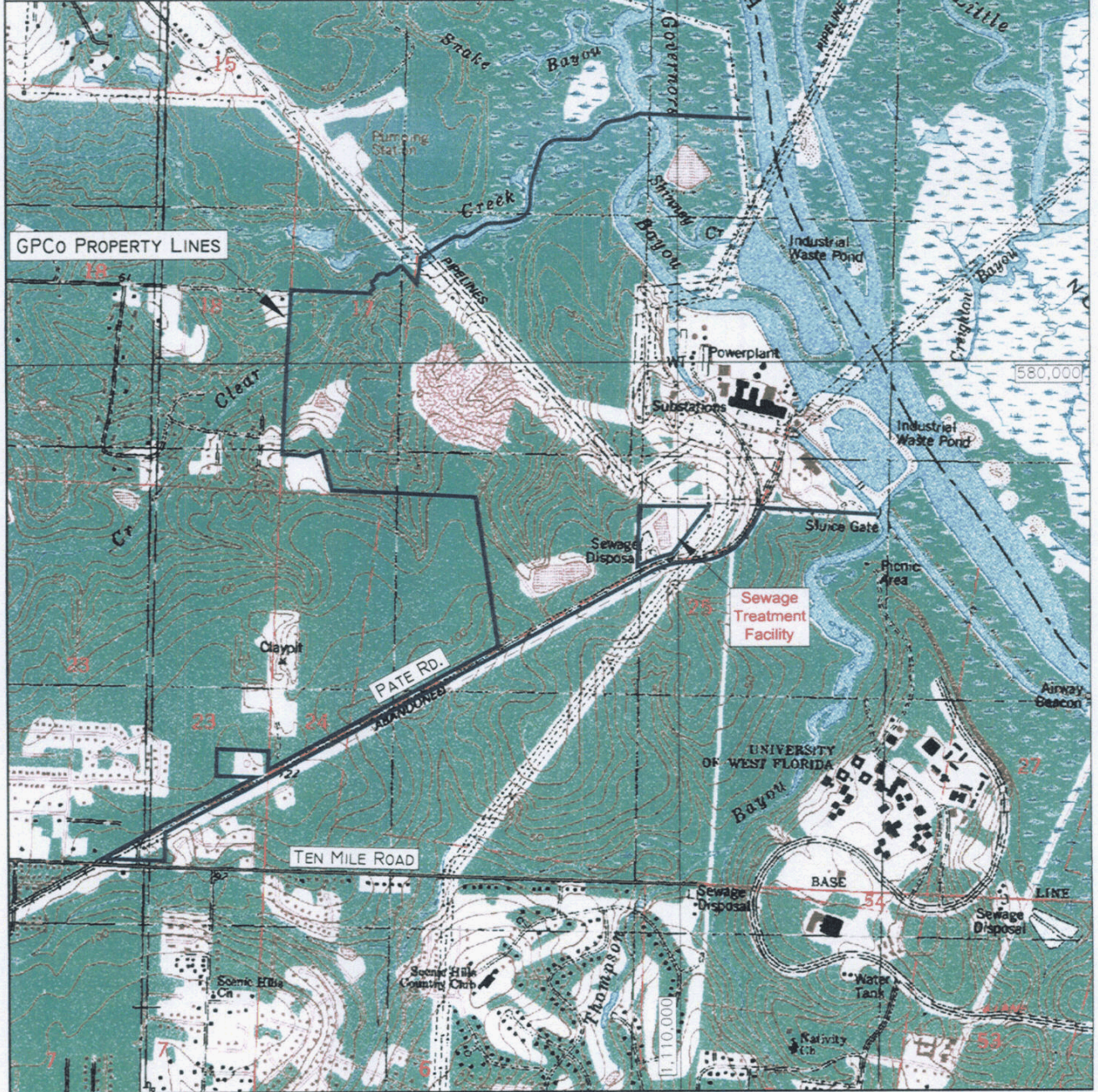
1000 0 1000 2000

SCALE: 1 INCH = 2000 FEET

# PLANT CRIST



ONE ENERGY PLACE  
PENSACOLA, FL. 32520-0323



# PLANT SMITH

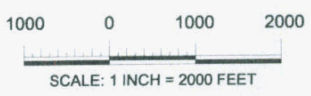


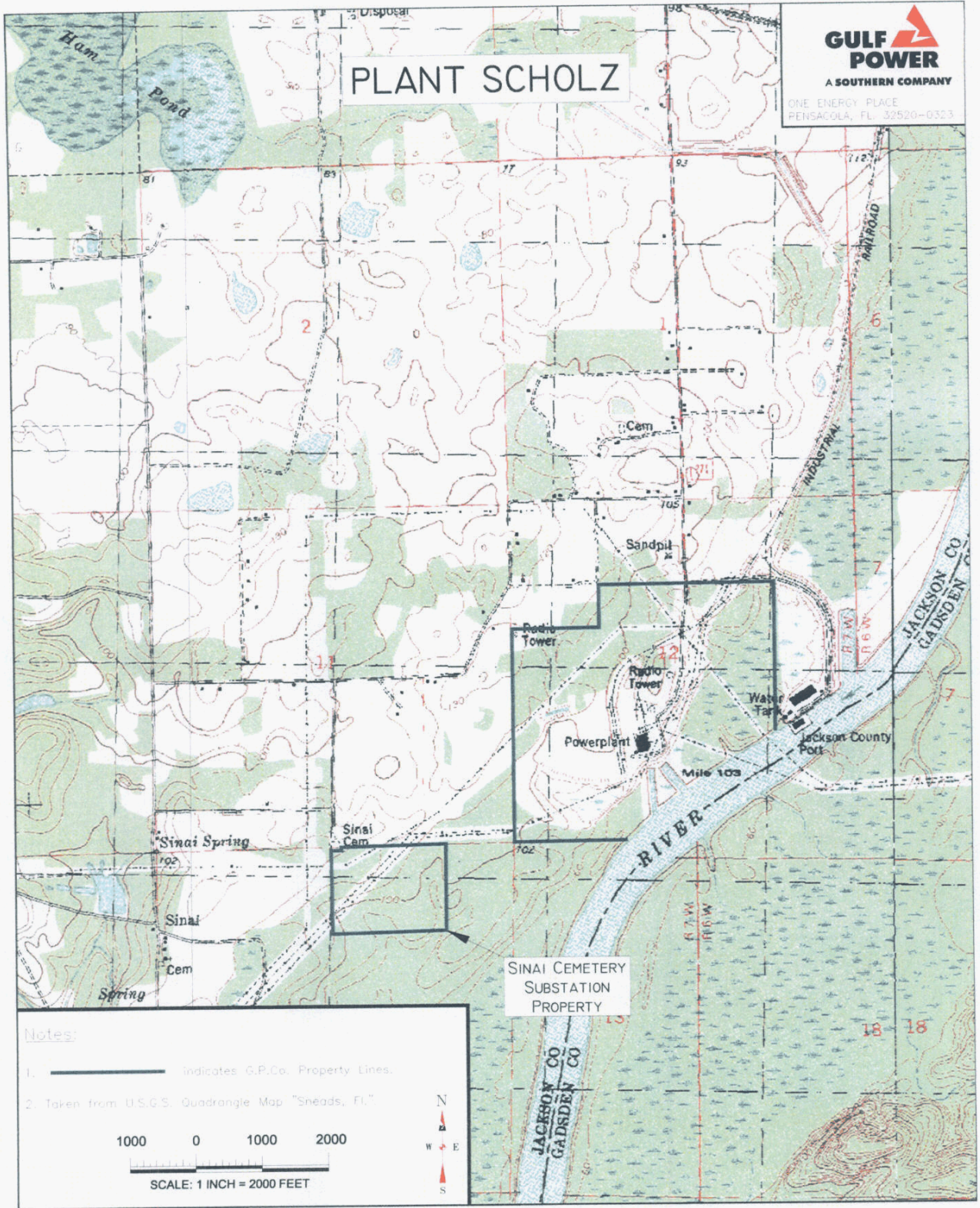
ONE ENERGY PLACE  
PELHAM, FL 32520-0323



Notes:

1. Grid lines shown are based on the Florida North Zone (#903), NAD83-90 H.A.R.N. State Plane Coordinate System.
2. indicates G.P.Co. Property Lines.
3. Taken from U.S.G.S. Quadrangle Map "Southport"







**GULF POWER COMPANY**

**SCHEDULE 7.1**

**FORECAST OF CAPACITY, DEMAND, AND SCHEDULED MAINTENANCE AT TIME OF SUMMER PEAK**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) (9)		(10)	(11) (12)	
YEAR	TOTAL INSTALLED CAPACITY MW	FIRM CAPACITY IMPORT MW	FIRM CAPACITY EXPORT MW	NUG MW	TOTAL CAPACITY AVAILABLE MW	FIRM PEAK DEMAND MW	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE MW	RESERVE MARGIN AFTER MAINTENANCE	
							MW	% OF PEAK		MW	% OF PEAK
2011	2,686	496	(211)	0	2,971	2,592	379	14.6%	NONE	379	14.6%
2012	2,686	496	(211)	0	2,971	2,642	329	12.5%		329	12.5%
2013	2,686	496	(211)	0	2,971	2,675	296	11.1%		296	11.1%
2014	2,686	885	(211)	0	3,360	2,706	654	24.2%		654	24.2%
2015	2,682	885	(211)	0	3,356	2,712	644	23.7%		644	23.7%
2016	2,682	885	(211)	0	3,356	2,722	634	23.3%		634	23.3%
2017	2,682	885	(211)	0	3,356	2,754	602	21.9%		602	21.9%
2018	2,674	885	(211)	0	3,348	2,787	561	20.1%		561	20.1%
2019	2,662	885	(211)	0	3,336	2,830	506	17.9%		506	17.9%
2020	2,662	885	(211)	0	3,336	2,880	456	15.8%		456	15.8%

78

**GULF POWER COMPANY**

**SCHEDULE 7.2  
FORECAST OF CAPACITY, DEMAND, AND SCHEDULED MAINTENANCE AT TIME OF WINTER PEAK**

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) (9)		(10)	(11) (12)	
YEAR	TOTAL INSTALLED CAPACITY MW	FIRM CAPACITY IMPORT MW	FIRM CAPACITY EXPORT MW	NUG MW	TOTAL CAPACITY AVAILABLE MW	FIRM PEAK DEMAND MW	RESERVE MARGIN BEFORE MAINTENANCE		SCHEDULED MAINTENANCE MW	RESERVE MARGIN AFTER MAINTENANCE	
							MW	% OF PEAK		MW	% OF PEAK
2010-11	2,725	496	(211)	0	3,010	2,296	714	31.1%	NONE	714	31.1%
2011-12	2,725	496	(211)	0	3,010	2,371	639	27.0%		639	27.0%
2012-13	2,725	496	(211)	0	3,010	2,401	609	25.4%		609	25.4%
2013-14	2,725	496	(211)	0	3,010	2,454	556	22.7%		556	22.7%
2014-15	2,725	885	(211)	0	3,399	2,439	960	39.4%		960	39.4%
2015-16	2,721	885	(211)	0	3,395	2,450	945	38.6%		945	38.6%
2016-17	2,721	885	(211)	0	3,395	2,481	914	36.8%		914	36.8%
2017-18	2,721	885	(211)	0	3,395	2,512	883	35.2%		883	35.2%
2018-19	2,698	885	(211)	0	3,372	2,550	822	32.2%		822	32.2%
2019-20	2,698	885	(211)	0	3,372	2,597	775	29.8%		775	29.8%

79

**GULF POWER COMPANY**

**SCHEDULE 8**

PLANNED AND PROSPECTIVE GENERATING FACILITY ADDITIONS AND CHANGES

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
<u>Plant Name</u>	<u>Unit No.</u>	<u>Location</u>	<u>Unit Type</u>	<u>Fuel</u>		<u>Fuel Transport</u>		<u>Const Start Mo/Yr</u>	<u>Com'l In-Service Mo/Yr</u>	<u>Expected Retirement Mo/Yr</u>	<u>Gen Max Nameplate KW</u>	<u>Net Capability</u>		<u>Status</u>
				<u>Pri</u>	<u>Alt</u>	<u>Pri</u>	<u>Alt</u>					<u>Summer MW</u>	<u>Winter MW</u>	
Daniel	1	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	09/77	06/15	274,125	(2.0)	(2.0)	D
Daniel	2	Jackson Cnty, MS 42/5S/6W	FS	C	HO	RR	TK	--	06/81	06/15	274,125	(2.0)	(2.0)	D
Lansing Smith	1	Bay County 36/2S/15W	FS	C	--	WA	--	--	06/65	06/18	149,600	(4.0)	(4.0)	D
Lansing Smith	2	Bay County 36/2S/15W	FS	C	--	WA	--	--	06/67	06/18	190,400	(4.0)	(4.0)	D
Pea Ridge	1 - 3	Santa Rosa County 15/1N/29W	CT	NG	--	PL	--	--	05/98	12/18	14,250	(12.0)	(15.0)	R

80

**Abbreviations:**

Unit Type

FS - Fossil Steam  
S - Steam  
CT - Combustion Turbine  
CC - Combined Cycle  
IC - Internal Combustion

Fuel

C - Coal  
NG - Natural Gas  
LO - Light Oil  
HO - Heavy Oil  
LFG - Landfill Gas  
WDS - Wood Waste Solid

Status

CR - Certified Rating change  
D - Environmental derate  
P - Planned, but not authorized by utility  
R - To be retired  
U - Under construction, less than or equal to 50% complete  
V - Under construction, more than 50% complete

Fuel Transportation

PL - Pipeline  
TK - Truck  
RR - Railroad  
WA - Water

**Schedule 9**  
**Status Report and Specifications of Proposed Generating Facilities**

(1)	Plant Name and Unit Number:	No Unit planned for 2011-2020
(2)	Net Capacity	
	a. Summer:	N/A
	b. Winter	N/A
	Gross Capacity	
	a. Summer:	N/A
	b. Winter	N/A
(3)	Technology Type:	
(4)	Anticipated Construction Timing	
	a. Field construction start - date:	N/A
	b. Commercial in-service date:	N/A
(5)	Fuel	
	a. Primary fuel:	N/A
	b. Alternate fuel:	N/A
(6)	Air Pollution Control Strategy:	N/A
(7)	Cooling Method:	N/A
(8)	Total Site Area:	N/A
(9)	Construction Status:	N/A
(10)	Certification Status:	N/A
(11)	Status with Federal Agencies:	N/A
(12)	Projected Unit Performance Data	N/A
	Planned Outage Factor (POF):	
	Unplanned Outage Factor (UOF):	
	Equivalent Availability Factor (EAF):	
	Capacity Factor (%):	
	Average Net Operating Heat Rate (ANOHR):	
(13)	Projected Unit Financial Data	N/A
	Book Life (Years):	
	Total Installed Cost (In-Service Year \$/kW):	
	Direct Construction Cost (\$/kW):	
	AFUDC Amount (\$/kW):	
	Escalation (\$/kW):	
	Fixed O&M (\$/kW - Yr):	
	Variable O&M (\$/MWH):	
	K Factor:	



**Gulf Power Company**

**Schedule 10**

**Status Report and Specifications of Proposed Directly Associated Transmission Lines**

(1) Point of Origin and Termination:	Unknown
(2) Number of Lines:	Unknown
(3) Right-of-Way:	Unknown
(4) Line Length:	Unknown
(5) Voltage:	Unknown
(6) Anticipated Construction Timing:	Unknown
(7) Anticipated Capital Investment:	Unknown
(8) Substations:	Unknown
(9) Participation with Other Utilities:	N/A

**This page is intentionally blank.**